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# THE JOURNAL OF THE KANSAS MEDICAL SOCIETY

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# Index to Volume XXX

## ORIGINAL ARTICLES

Anesthesia: Local vs. General—Daniel Peterson, M.D., Herington, Kansas . . . . .	4	Pulmonary Cavitation, The Modern Treatment of— Frank Porter Miller, M.D., Los Angeles, California . . . . .	409
Anemia, Secondary, The Treatment of—Russell L. Haden, M.D., Kansas City, Kansas . . . . .	15	Public Health—Past, Present and Future—Earle G. Brown, M.D., Topeka, Kansas . . . . .	416
A Visit to Harvey's Alma Mater, Padua—Ralph H. Major, M.D., Kansas City, Kansas . . . . .	41	Report of the Kansas State Necrology Committee for the Current Year, April 16, 1928—April 15, 1929— Elmer E. Liggett, M.D., Oswego, Kansas . . . . .	218
An Umbilical Cord Tie—Harry W. Davis, M.D., Plains, Kansas . . . . .	46	Some Observations on Cancer Problem—L. S. Nelson, M. D., Salina, Kansas . . . . .	224
Acute Appendicitis—A. Newman, M.D., Pittsburg, Kan- sas . . . . .	112	Sedimentation Test, The—J. L. Lattimore, M.D., To- peka, Kansas . . . . .	115
Acute Abdomen, The—L. F. Barney, M.D., Kansas City, Kansas . . . . .	147	Tuberculosis, The Early Diagnosis of—F. A. Trump, M.D., Ottawa, Kansas . . . . .	37
Acute Encephalitis—Report of an Unusual Case— F. F. Wilson, M.D., Kansas City, Kansas . . . . .	153	Technique for Routine Gastric Analysis and Duodenal Drainage—Rilla Hammat, Kansas City, Kansas . . . . .	52
Anemia, Pernicious—Primary or Addison's Anemia— Fred J. McEwen, M.D., Wichita, Kansas . . . . .	291	The Association of Physicians and Dentists in Relation to Focal Infection—Edwin N. Robertson, M.D., Con- cordia, Kansas . . . . .	84
Agranulocytic Angina—J. L. Lattimore, M.D., Topeka, Kansas . . . . .	298	The Lump in the Breast—W. P. Callahan, M.D., Wich- ita, Kansas . . . . .	368
Blood Pressure in Disturbances of the Thyroid Gland, The, Joseph F. DeCoursey, M.D., Cincinnati, Ohio . . . . .	44	Undulant Fever—Earle G. Brown, M.D., Topeka, Kan. Undulant Fever with Vaccine, The Treatment of—Re- port of Ten Cases—Fred E. Angle, M.D., Kansas City, Missouri . . . . .	9
Cathartic Colitis, The Differential Diagnosis of—Albert S. Welch, M.D., Kansas City, Mo. . . . .	412	Xanthelasmic Granuloma—Report of a Case—R. F. Gard, M.D., and P. N. Johnstone, M.D., Kansas City, Kansas . . . . .	323
Congenital Malformation of the Kidneys with Report of a Case—A. Boese, M.D., Coffeyville, Kansas . . . . .	117		190
Chlorosis with a Brief Report of Three Cases—H. N. Tihen, M.D., Wichita, Kansas . . . . .	186		
Diabetes Mellitus of Infectious Origin—George H. Pen- well, M.D., Marquette, Kansas . . . . .	401		
Digitalis, The Use of—P. T. Bohan, M.D., Kansas City, Missouri . . . . .	71		
Diagnostic Relation of Roentgen Findings to Physical Signs—In Influenzal Bronchopneumonia of Children— Frank C. Neff, M.D., Kansas City, Missouri . . . . .	295		
Difficult Micturition, Differential Diagnosis of—Ed- ward McCarthy, M.D., Kansas City, Kansas . . . . .	328		
Ethics—A. J. Davis, M.D., Logan, Kansas . . . . .	17		
Empyema, The Treatment of—J. E. McFarlane, M.D., Manhattan, Kansas . . . . .	35		
Expert Evidence—J. A. Dillon, M.D., Larned, Kansas . . . . .	50		
Early Tuberculosis, The Handling of—Roland G. Brewer, M.D., Haddam, Kansas . . . . .	259		
Gall Stones, The Diagnosis of—W. J. Walker, M.D., Topeka, Kansas . . . . .	288		
Hemorrhoids, Treatment of—Barrett A. Nelson, M.D., Manhattan, Kansas . . . . .	47		
Hair Lip, The Repair of and the Accompanying Nasal Deformity—Daniel C. Padgett, M.D., Kansas City, Kansas . . . . .	143		
Hemochromatosis—Report of a Case With Post Mortem Findings—Paul M. Krall, M.D., and A. Morris Gins- berg, M.D., Kansas City, Kansas . . . . .	155		
Hospitalization of Narcotic Addicts, U. S. Penitentiary, Leavenworth, Kansas—C. S. Bennett, M.D. . . . .	341		
Internal Derangement of the Knee Joint—C. B. Fran- cisco, M.D., Kansas City, Kansas . . . . .	167		
Impressions from the Salina State Medical Meeting— J. T. Scott, M.D., St. John, Kansas . . . . .	198		
Injuries to the Coccyx—Earl L. Vermillion, M.D., Sa- lina, Kansas . . . . .	217		
Influenza, Studies on—Noble P. Sherwood, M.D., Law- rence, Kansas . . . . .	331		
Ketogenic Diet in the Treatment of Chronic Convulsive States—William C. Menninger, M.D., Topeka, Kansas Lobar Pneumonia, The Treatment of—F. M. Wiley, M.D., Fredonia, Kansas . . . . .	285		
Low Blood Sugar in Hypothyroid Conditions—J. Wat- son Campbell, M.D., Halstead, Kansas . . . . .	365		
Mechanism in Psychogenic Disease, The—N. R. Smith, M.D., Halstead, Kansas . . . . .	1		
Narcotic Drug Addiction—Forrest A. Kelley, M.D., Winfield, Kansas . . . . .	107		
Nephritis in Children, Treatment of—Hugh T. Dwyer, M.D., Kansas City, Kansas . . . . .	165		
Ocular Headache, Some Aspects of—Lyle S. Powell, M.D., Lawrence, Kansas . . . . .	81		
Otitis Media of Children, Conservative Treatment of— Caldwell B. Summers, M.D., Kansas City, Kansas . . . . .	169		
Our Organization—President's Address—L. F. Barney, M.D., Kansas City, Kansas . . . . .	179		
Podalic Version—H. J. Stacey, M.D., Leavenworth, Kan. Poliomyelitis from a Physiological and Pathological Standpoint, The Treatment of Acute—Edwin D. Ebright, M.D., Wichita, Kansas . . . . .	407		
Primary Carcinoma of Lung—C. G. Leitch, M.D., Kan- sas City, Kansas . . . . .	76		
Prenatal Care—J. D. Clark, M.D., Wichita, Kansas . . . . .	160		
Postnatal Care—M. W. Hall, M.D., Wichita, Kansas . . . . .	239		
Physical Diagnosis—Logan Clendening, M.D., Kansas City, Missouri . . . . .	285		
Primary Bronchogenic Carcinoma—Clinical Features— Sam. E. Snider, M.D., Lawrence E. Wood, M.D., Kan- sas City, Missouri . . . . .	361		

## EDITORIALS

Annual Meeting, The . . . . .	124, 195
Auxiliary . . . . .	125
Basic Science Acts . . . . .	22
Buried Alive . . . . .	126
Enforcement and Efficiency . . . . .	23
Ethical Errors . . . . .	271
Facts, Figures and Fancies . . . . .	350
In Five States . . . . .	22
Infractions of the Principles of Ethics . . . . .	303
Kansas Medical Golf Association . . . . .	125
Kansas Medical Laboratory Association . . . . .	125
Luncheon . . . . .	125
McClintock, John C., M.D. . . . .	275
Medical Libraries . . . . .	380
Our Advertisers . . . . .	26
Opening the Hospitals . . . . .	98
Periodic Examinations . . . . .	426
Physiotherapists . . . . .	97
Post-Graduate Medical Education . . . . .	172
Publicity and Advertising . . . . .	233
Periodic Examinations . . . . .	234
Principles of Ethics . . . . .	271
Principles of Medical Ethics . . . . .	272
Pharmacopoeal Convention . . . . .	354
Problems . . . . .	424
Reciprocity and the Basic Science Act . . . . .	60
Some Questions . . . . .	425
The Sheppard-Towner-Newton Bill . . . . .	58
There is Still Hope . . . . .	94
The Medical School Number . . . . .	172
The State Narcotic Law . . . . .	380
The Insane Criminal . . . . .	380
Where Needed . . . . .	25

## SOCIETIES

Anderson County Society . . . . .	279
Bourbon County Society . . . . .	29, 64
Brown County Society . . . . .	278
Central Kansas Society . . . . .	174
Clay County Society . . . . .	28, 63, 101, 131, 174, 198, 238, 392, 428
Crawford County Society . . . . .	132
Dickinson County Society . . . . .	174, 279, 392
Elk County Society . . . . .	29
Franklin County Society . . . . .	199, 277, 393
Golden Belt Society . . . . .	276
Kansas City Southwest Clinical Society . . . . .	31
Kansas City Annual Fall Clinical Conference of the Kansas City Southwest Clinical Society . . . . .	310
Kansas Medical Society, Seventy-First Annual Meeting, Program . . . . .	128
Kansas Medical Society, Seventy-First Annual Meet- ing, Proceedings . . . . .	200, 239
Labette County Society . . . . .	62
Leavenworth County Society . . . . .	63
Meade-Seward County Society . . . . .	63
Mitchell County Society . . . . .	276
Missouri-Kansas Neuropsychiatric Society . . . . .	198
Radiologic Society of North America . . . . .	280
Rush-Ness County Society . . . . .	278, 309, 392
Saline County Society . . . . .	63
Sedgwick County Society . . . . .	133, 200
Shawnee County Society . . . . .	29, 391, 428
Solomon Valley Society . . . . .	276
Stairford County Society . . . . .	28, 101, 132, 175, 199

# INDEX TO VOLUME XXX

Sumner County Society .....	428
Wilson County Society .....	63, 174

## UNIVERSITY OF KANSAS CLINICS

Chronic Dilatation of the Duodenum—Clinic of Thomas G. Orr, M.D. ....	88
The Simultaneous Occurrence of Infantile Paralysis in Mother and Infant—James B. Weaver, M.D. ....	56
Ulceration of the Meatus and Ammonia of the Diaper—Hugh T. Dwyer, M.D. ....	55

## KANSAS STATISTICAL MEDICAL LABORATORY ASSOCIATION

Certain Public Health Problems of Oregon—William Levin, D.P.H., Portland, Oregon .....	345
Complete Fixation and Blood Count—Lance C. Hill, Emporia, Kansas .....	121
Examination of Sputum for Tubercle Bacilli—Martin Dupray, B.S., M.S., Hutchinson, Kansas .....	227
Why Sewage Treatment?—Ernest Boyce .....	266

## DEATHS

Anderson, Andrew G., Salina .....	310
Aplin, Charles B., Solomon .....	311
Barnett, Benjamin M., Kansas City .....	359
Bower, William C., Topeka .....	65
Colglazier, Edward E., Rush Center .....	127
Crawford, William E., Council Grove .....	429
Dorsey, Jacob Gray, Wichita .....	429
Dyche, Lewis Lindsay, Jr., Utica .....	359
Engberg, Andrew, McPherson .....	102
Everhardy, Jacob L., Leavenworth .....	64
Gage, George Richard, Hutchinson .....	246
Harker, Harry James, Horton .....	246
Harris, William Henry, Kiowa .....	171
Hawley, Harry L., Englewood .....	171
Herring, William Conyers, Parsons .....	246
Holeman, John T., Garland .....	64
Huff, Sylvester, Mound Valley .....	276
Hunt, Cyrus Elbert, Wichita .....	102
Keeler, Francis L., Treece .....	359
King, Joseph Perry, Galena .....	246
Klepinger, John Calvin, Rosedale .....	310
Lee, George W., Yates Center .....	102
Lutz, Edgar Jacob, Salina .....	246
Maxson, Ira L., Larned .....	171
McClintock, John Calhoun, Topeka .....	276
McGinnis, S. S., Scott City .....	128
Millard, Morris A., Topeka .....	359
Mitchell, M. R., Avon Park, Florida .....	64
Myers, Joseph Wakefield, Elkhart .....	359
Otterman, James L., Kansas City .....	246
Phillips, George Harrison, Yates Center .....	246
Phillips, William James, Beaumont .....	429
Plumb, Henry, Pleasanton .....	102
Plummer, Lewis N., Muscotah .....	311
Smith, Daniel M., Kansas City .....	429
Smith, Lawrence Theodore, Newton .....	102
Somers, Martin L., Altoona .....	128
Spitler, Samuel W., Wellington .....	276
Tinney, Ray Marshall, Norton .....	64
Tyler, DeWitt C., Clifton .....	64
Watt, James Smith, Kansas City .....	246
Wilcox, George S., Mulvane .....	359
Youmans, James F., Wichita .....	128
Zimmerman, A. Clayton, Perry .....	64

## MISCELLANEOUS

American Pharmaceutical Manufacturing Association ..	432
American College of Physicians .....	104
American Public Health Association .....	232
Abstract of the Proceedings of the House of Delegates at the Portland Session of the American Medical Association, July 8-12, 1929 .....	311
A Medal to Dr. R. L. Haden .....	423
A New Research Fellowship .....	394
A Soliloquy—J. R. Scott, M.D., Ottawa .....	432
Barnett and Ramel Optical Company Announcement ..	395
Council Meeting .....	26
Chips. .... 61, 99, 126, 236, 308, 356, 384, .....	427
Committees. ....	100
Council Accepts Optochin .....	104
Constitution, By-Laws and Resolutions of the Kansas Medical Society as Amended to Date .....	386
Gross \$1,500 Prize, The Samuel D. .... No. 7	XV
Götter Association Offers Prizes .....	279
Influenza—J. R. Scott, M.D., Ottawa .....	101
Medical and Pharmaceutical Co-operation .....	21
Making the Crinoline Strips for the Plaster-of-Paris Bandages When the Crinoline Comes in Bolts—E. T. Fleir, Bell Memorial Hospital .....	102
Mental Hygiene, First International Congress on ..	279
Modification of Powdered Milk Governed by the Same Rules as Cow's Milk, The .....	395
Medical School Notes .... 65, 103, 134, 171, 309, 358, .....	429
Personals. ....	358
Problem of Mechanical Refrigeration .....	319
Prophylaxis and Early Treatment of Pneumonia ..	320
Pediatrician's Formula, The .....	349

Shock Proof X-Ray Apparatus Now Available.....No. 7	XV
Tuberculosis Clinics for Doctors .....	27
Tuberculosis Abstracts .....	19, 53, 86, 119, 175, 192, 229, 268, 300, 347, 377, 421

## BOOKS

Anesthesia, The Technic of Local, by Arthur E. Hertzler, M.D. ....	135
Angina Pectoris, by Harlow Brooks, M.D. ....	104
American Illustrated Medical Dictionary .....	317
An Introduction to the Study of Physic, by William Heberden. ....	319
Blood Picture and its Clinical Significance, The by Dr. Victor Schilling .....	430
Blood, Diseases of the, by Paul W. Clough, M.D. ....	430
Compend of Diseases of the Skin, by Jay Frank Schamberg, A.B., M.D. ....	65
Clinical Neurology, a textbook for students and practitioners, by M. Neustaedter, M.D. ....	103
Climacteric, The, by Gregario Maranon .....	135
Cancer and Chronic Diseases, A New Treatment of, by LaForest Potter, M.D. ....	247
Clinical Electrocardiograms—Their Interpretation and Significance, by Frederick A. Willius, M.D. ....	248
Challenge of Chronic Diseases, The, by Ernest P. Boas, M.D. ....	318
Clinical Laboratory Methods, by Russell L. Haden, M.D.	319
Conquest of Cancer by Radium and Others Methods, by Daniel Thomas Quigley, M.D. ....	359
Clinical Medicine for Nurses, by Paul H. Ringer, M.D.	393
Chest, Diseases of the, and the Principles of Physical Diagnosis, by George W. Norris, M.D. ....	394
Diabetic Life, The, its Control by Diet and Insulin, by R. D. Lawrence, M.A., M.D., M.R.C.P. ....	30
Diagnostic Methods and Interpretations in Internal Medicine, by Samuel A. Lowenberg, M.D. ....	247
Devils, Drugs and Doctors, the story of the science of healing from medicine-man to doctor, by Howard W. Haggard, M.D. ....	248
Diabetes Mellitus, The Treatment of, with Higher Carbohydrate Diets, by William David Sansum, M.D. ....	393
Ear, Nose and Throat, Diseases of the, Medical and Surgical, by Wendell Christopher Phillips, M.D. ....	30
Edema and its Treatment, by Herman Elwyn, M.D. ....	247
Electrocardiography, Principles and Practice of, by Carl J. Wiggers, M.D. ....	318
Fractures, The Treatment of, by Lorenz Boehler, M.D.	318
Getting Ready to be a Mother, by Carolyn Conant Van Blarcom, R.N. ....	135
Gynecology, a text book of the diseases of women, by Lynn Lyle Fulkerson, A.B., M.D. ....	319
Gynecologic Technic, Surgical and Medical, by Thomas H. Cherry, M.D. ....	359
History of Medicine, with Medical Chronology, Suggestions for Study and Bibliographic Data, by Fielding H. Garrison, M. D. ....	66
Hemostasis, The History of, by Samuel Clark Harvey, M.D. ....	319
Human Anatomy, an introduction to the Study of, by R. J. Terry, A.B., M.D. ....	393
International Clinics .....	65, 134, 281, 393
Infant and Young Child, The. Its care and feeding from birth until school age, by John Lovett Morse, M.D., Edwin T. Wyman, M.D., and Lewis Webb Hill, M.D.	104
Imperative Traumatic Surgery with special reference to after-care and prognosis, by C. R. G. Forrester, M.D.	135
Injection Treatment of Internal Hemorrhoids, by Marion C. Pruitt, M.D. ....	136
Intern's Handbook by members of the faculty of the College of Medicine Syracuse University, directed by M. D. Dooley, M.D. ....	394
Love, The Physiology of, by George M. Katsainos, Ph. D., M.D. ....	281
Medical Clinics of North America .... 30, 66, 134, 281, .....	394
Mayo Clinic and the Mayo Foundation for 1928, The Collected Papers of the .....	317
Minor Surgery, by Frederick B. Christopher, M.D. ....	359
Masturbation and the Psychosexual Life, A Study of, by F. W. Meagher, M.D. ....	360
Materia Medica and Therapeutics, by Reynold Webb Wilcox, M.D. ....	360
Medical State Board Questions and Answers, by R. Max Goepff, M.D. ....	394
Modern Methods of Treatment by Logan Clendening, M.D. ....	430
Neuroses, The, by Israel S. Wechsler, M.D. ....	281
Nose, Throat and Ear, A Manual of Diseases of the, by E. B. Gleason, M.D., LL. D. ....	317
Nose, Throat and Ear and their Disease: In original contributions by American and European authors. Edited by Chevalier Jackson, M.D. ....	317
Nutrition, The Newer Knowledge of, by E. V. McCollum, Ph.D., Sc.D. ....	431
Osteomyelitis and Compound Fractures and Other Infected Wounds, by H. Winnett Orr, M.D. ....	319
Partnerships, Combinations and Antagonisms in Disease, by Edward C. B. Ibotson, M.D. ....	30
Pathology, Surgical, by William Boyd, M.D. ....	318

# INDEX TO VOLUME XXX

Pathology, A Textbook of, by William G. MacCallum, M.D. ....	30	Spine and Thorax, Disease and Deformities of the, by Arthur Steindler, M.D. ....	247
Pediatrics for the General Practitioner, by Harry Monroe McClanahan, A.M., M.D. ....	65	Sterilization for Human Betterment, by E. S. Gosney, B.S., LL.B., and Paul Popenoe, D. SC. ....	360
Physical Therapeutic Technic, by Frank Butler Granger, M.D. ....	247	Thrombo-Angiitis Obliterans—Clinical Physiologic and Pathologic Studies by George E. Brown, M.D., and Edgar V. Allen, M.D. ....	30
Physical Examination and Diagnostic Anatomy, by Charles B. Slade, M.D. ....	318	Tuberculosis and how to combat it, by Francis M. Pottinger, M.D. ....	136
Physiological Chemistry, Pettibone's Textbook of, revised and rewritten by J. F. McClendon, Ph.D. ....	430	Thyroid Gland, Diseases of the, by Arthur E. Hertzler, M.D. ....	247
Practical Massage and Corrective Exercises by Hartwig Nissen. ....	431	Tularemia, by Walter M. Simpson, M.D. ....	393
Preventive Medicine, outline of, prepared under auspices of the committee on public health relations, New York Academy of Medicine ....	360	Venous Pressure, The Clinical Aspects of, by J. A. E. Eyster, B.S.C., M.D. ....	318
Sexual Function in the male and female, Disorders of the, by Max Huhner, M.D. ....	431	Varicose Veins with special reference to the injection treatment, by H. O. McPheeters, M.D. ....	359
Surgical Clinics of North America ....	431	Writing of Medical Paper, The. By Maud H. Mellish-Wilson, Editor of Mayo Clinic Publications. ....	248
Spinal Anesthesia, principles and technique, by Charles H. Evans, M.D. ....	103	Youthful Old Age, How to Keep Young, by Walter M. Gallichan. . . . .	247



# THE JOURNAL

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## Kansas Medical Society

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No. 1

### The Mechanism In Psychogenic Disease

N. R. SMITH, M.D., Halstead

Read before the Kansas Medical Society at its Annual Meeting, May 8-10, 1928, at Wichita, Kansas.

By psychogenic disease I mean any state of lowered efficiency that has its etiology wholly or partially in the mental and nervous functions of the patient. The majority of regular medical practitioners by reason of their education and training think and act entirely on the basis of disease in a strictly physical or organic sense. The patient's ideas about his status seldom get a hearing and usually exert little or no influence in the diagnosis and treatment. It follows quite logically then that it is the disease and not the patient that is under treatment. Since the apparent disease often has no existence outside of the patient's convictions the results are frequently unsatisfactory.

Where the mental or nervous element is obvious the patient is told usually one of three things, either singly or in combination. These are: "You are a case of nerves;" "You only imagine you are sick;" "Go home and forget it." These phrases are not mine; they are put down quite verbatim from patients' conversations and in a majority of instances they were followed up by "I guess I know when I'm sick; I've got a pain, and it ain't imaginary either." These are the patients that clutter up waiting rooms of various physicians in more or less rapid succession, and finally or in between their shopping excursions have paid most of their ready cash to the chiropractor. They compose a large proportion of the clientele of all irregulars and it is not to our credit that this should be so. Medical men must realize that their ministrations should often include mind as well as body. Sound therapeutic measures here rest on etiological factors and an understanding of, if I may use the vernacular, "How did they get that way?"

Life is a perpetual struggle. This holds for all forms from the lowest unicellular organisms to man, the most complex of all. Since perfect control of environment is not possible life must either wreck itself against the unfavorable factors or submit to them in the least harmful fashion. This process is adaptation and is universally in operation. Adaptation is accomplished by unitary action of the whole organism. This can be brought about in higher forms of life only by some co-ordinating mechanism that can bring the various organs and tissues into an harmonious action. This is the primary function of the nervous system. By nervous system I include the brain, spinal cord, the sensori-motor and sympathetic-autonomic systems, and the hormonal system or endocrine glands.

The singleness of purpose required of any given organism for successful adaptation is more easily acquired as we go downward in the scale of life. This naturally results from the simplicity of requirements on the one hand and lack of complexity in the co-ordinating and co-ordinated structures on the other. Trouble is more likely to occur in the higher forms, and reaches its optimum prospects in man because he stands at the pinnacle both in things necessary for his complete happiness and success and in the elaborateness of the machinery that must be put into motion to acquire them. A modern combine is much more liable to functional derangements than a sickle.

A considerable part of adaptation activities in animal life and during the early years of human life are instinctive and does not require conscious control. That there is conscious evaluation of the elements that best satisfy the organisms fundamental needs is obvious from the food and housing habits of animals and by the lusty vocal protests of infants and young children. As a result conduct and affective emotional reaction types be-

come established. The thing which we call personality gradually evolves and becomes relatively fixed. One prominent writer thinks that we become largely a creature of reflex action by the time adult life is attained. We certainly do many things in what amounts to a reflex manner. Take the matter of nutrition as an example. A visceral sensory impulse which we readily interpret as hunger causes us to quite rhythmically pause in either work or pleasure and satisfy it by eating. The whole process is ordinarily one of pleasure and in the majority of individuals requires little conscious direction. Consider the vast difference in the emotional effect between a man whose efforts have placed him far beyond the possibility of care as to where his next meal is coming from and the individual out of a job who remarked, upon hearing the noon whistle; "For most folks that means dinner, for me it is only twelve o'clock." Suppose now that the care-free individual becomes afflicted with some metabolic disease that requires some hitherto undreamed-of restrictions on his dietary habits. Let it be diabetes. He must now exercise constant volitional control within a relatively narrow range of foodstuffs in contrast to his previous free choice of all that the market afforded. Here is where his reaction pattern will determine his attitude. Some will gladly lend their co-operation; others will say they would rather be dead than to deny themselves this or that favored food and in proof of the sincerity and depth of their statement proceed to eat themselves to death. With variations this food story holds for all the material affairs of existence. Many knowing husbands have relieved marked indispositions in their wives by gifts, funds for a bonnet, fur coat or new motor.

Physical life depends largely on physical means for its maintenance, all of which as previously outlined, must pass either consciously or unconsciously the censorship of the mind and be accepted or rejected from the standpoint of satisfaction. Mental life functions on a pabulum of ideas: they enter the mind over the sensory pathways and may originate either in the bodily soma or in the external environment. The physical exist-

ence goes on largely outside or beneath consciousness; we are seldom aware of digestion, respiration, circulation, etc. We are not particularly disturbed by dusty air until a particle lodges in the conjunctiva and yet we all feel the need of physical cleansing at the end of a dusty day to remove the innumerable particles that have been deposited on our bodies in a very real fashion, but whose presence, compared to the one in the eye amounts to nothing in the sum total of our comfort.

In like manner we are under constant ideogenous stimulation. To think of nothing is impossible. For the most part the assimilation or disposal of the ideas that reach the higher centers of the nervous mechanism goes on in a manner somewhat comparable to the physical bodily processes just enumerated. It may be entirely below the conscious level or state of awareness. However let something cross the threshold of consciousness that has large affective emotional value and it at once dominates mental activity. It may be either of pleasurable content or of a nature to inflict unhappiness and ultimate discomfort on the individual. Since mind and body are indissolubly linked the body shares in the net effect. This is indeed an old story and has been placed on a solid foundation by the work of Pawlow and Cannon in particular.

It is my hope that what I have said thus far has, so to speak, set the stage for the elucidation of the mechanism by which the various psycho-neuroses or their conversion phenomena come about. The extent of the disbursement of the emotional effect upon the somatic portions of the body will determine first whether the patient presents himself as a pure psycho-neurosis or as a combined nervous visceral entity or possibly what appears to be a definite organic case.

I think I can best bring the matter to you by case sketches. A middle aged farmer complains of nervousness limited to a subjective feeling of uneasiness, insomnia, and lack of appetite. Investigation showed the trouble dated a few weeks back and that it was started by loss of money in a land deal. This is nothing more than exaggerated simple



worry and represents an example of a relatively early stage of a psycho-neurosis.

A man 38 years of age, no occupation at present and for two years previously other than occasionally playing the stock market in a small way and always successfully, presents himself with the complaint that he is afraid he is going to murder his wife and three children, and occasional palpitation of the heart. He stated he had nothing bothering him now. "I got rid of all my worries years ago." The facts are that at age 28 he married a moron girl of fifteen. He soon tired of her but because she had given birth to his children he could not tolerate the thought of divorcing her. Six years ago she started divorce proceedings under the mistaken notion she was to be deserted. He pacified her and soon "forgot it." A neighbor woman killed herself and children and he promptly absorbed the idea. The conflict here is the continued dissatisfaction with the woman of his choice and his wish to rid himself of her which is completely blocked by his regard for her in the mother's role. The suggested escape by murder is a conversion to a but slightly less painful idea which is gradually being fixed through sub-conscious channels on his heart. The first doctor that tells him he has heart disease will complete the somatic transfer and ruin him completely until he is separated permanently from his wife.

A young woman school teacher of 25 years has for some months complained of weakness and a feeling of depression. About one year previously she had had a pleurisy with effusion which had yielded nicely to a four months' course of bed-rest. Her cure was complete and repeated examinations failed to reveal any trace of active disease. I had seen her once in consultation and made a tentative diagnosis of a psycho-neurosis. Some weeks later I was invited to take care of her. After about 10 days of analytical conversations a lead was uncovered in her mental life and very promptly led to something which she refused to discuss. She lay in bed 12 days thinking about it with every evidence that the matter was one of great emotional stress and finally with a great display unburdened her

mind. She had been a masturbator for some years up to age 16 and through reading some quack literature had the notion that she had ruined herself as a prospective wife and mother. Her condition previous to the attack of pleurisy had been one of active concern; the rest cure had suggested to her sub-conscious mind a way out, that of permanent semi-invalidism. At the present time she is teaching and enjoying life to the limit.

One more case that for obvious reason I will not soon forget will show you that these things are of serious import to the patient.

A chemical engineer, a University graduate 32 years of age, comes in with a torticollis to the left. Two years previously his wife lay dying slowly from peritoneal carcinomatosis. Our patient was kneeling at her bedside and in order to avoid her gaze turned his head to the left. It continued in that position to the end of his life. He thought that the cause of his wife's death was a Neiserian infection of his youth. He had been repeatedly told by good men that he had no trace of the disease now and the fallacy of his notions had been pointed out to him without avail. Obviously since he was apparently amenable to reason but could not apply it to his situation to his ultimate relief, there must have been some other factor in operation. There was: during a lover's quarrel in their early married life he had a transient wish that his wife would die. This information was determined in his case by dream analysis. The recurrence was so painful that he could not be carried any further for he shot himself two days later. Here is a case where a man's ideas killed him. He was not insane; he discussed the matter of suicide in reasonable calmness and deliberately chose that method as an escape from a situation composed entirely of erroneous mental concepts but which to him were very, very real and painful.

In order to bring out the purpose of my paper I have in these case outlines unavoidably overstepped mildly into the realm of therapeutics. It is not my intention to follow this up, but the last case requires me to say that treatment is always individual and selective and like

the surgeon in his operative work, there is an element of risk involved that sometimes tips the scales against a favorable outcome.

The first stage in the mechanism of psychogenic disease is doubt; a state of uncertainty. This leads to fear and unassuaged fear is worry. Worry is probably the earliest clinical expression and manifests itself fairly true to type as a rule.

The prevalent notion about worry is to "forget it." This is equivalent to losing a portion of the brain and is therefore an impossibility. By repression the patient believes he has forgotten his troubles and smiles once more. Repression has very distinct limitations, especially with matters that carry with them a large load of affective emotional value, which in other words is affective nervous energy and eventually will require expenditure. This initiates conversion and the visceral or somatic fixation determines what the patient complains of. When the affect is completely dissociated from the cause by long standing fixation or repeated transfers the patients lose much of their emotional instability and come to complain only of some somatic disorder. This represents the end product of the mechanism, namely hysteria, the most common disease in civilized society.

Some believe the people that develop these conditions are different in some way. This is the notion that by heredity they are predisposed or pre-destined to nervous and mental abnormalities. This belief will not withstand impartial criticism. The best answer for me at this moment is that the individuals making up the great bulk of those suffering from psychoneuroses come from the rank and file of humanity that are doing the world's useful work. I do not deny that there are certain types of congenital psychopathic individuals, but they are distinctly outside the pale of this discussion. Also a certain proportion of the psycho-neurotics will eventually, if not properly cared for, evolve into true psychoses and their prognosis then is somewhat more unfavorable and their treatment a much greater problem. It should be the office of every physician to anticipate these unhappy end results. The

warning signs are either in evidence or easily discernible for him who has eyes to see.

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### **Anesthesia—Local vs. General**

DANIEL PETERSON, M.D., Herington

Read before the Kansas Medical Society at its Annual Meeting, May 8-10, 1928, at Wichita, Kansas.

In adopting new procedures in medicine there must logically be a comparison of the advantages and disadvantages of the new as compared with the old. A dozen years ago the recent graduate in medicine left school with the impression that certain minor operations might be performed under local anesthesia, but even in these there was a deep rooted fear that sudden death might result from the procedure—a hang-over of the days when cocain was used in concentrated solution. Very few schools had any systematic instruction in the giving of local anesthetics as they had in administering general anesthesia. This may be due to the time which each of the anesthetics has been known and used. Chloroform 86 years; ether 85 years; cocain 36 years; novocain 23 years. It takes time for the indications and limitations of a new method to become established.

In spite of trained anesthetists and improved methods of administration, and the combating of undesirable effects, general anesthesia has a mortality all its own—not to mention after affects such as nausea, vomiting and crippling morbidity. The mortality rates as given in different statistics vary, and probably do not mean exactly what they are supposed to indicate. When a patient already burdened with some surgical disease submits to general anesthesia, then to the necessary operation, his vital powers may be so depressed by this combination that he is unable to fight through and a fatality, usually ascribed to the disease or operation, occurs hours or days later. The mortality rates as given by different authors will average approximately as follows: Chloroform 1 in 2,000; ether 1 in 6,000; nitrous oxide 1 in 600. Nitrous oxide when combined with oxygen is safer than when given alone and Gwathmey reports 8,585 cases with this combination without a fatality. Ether at the Mayo clinic for the six years preceding



1911 was given 49,000 times without any death attributed to anesthesia.

Anesthesia should not only prevent pain, but so far as possible should prevent shock. It should make possible the performance of all kinds of operations without deaths during or immediately following, or without seriously reducing the resistance of the patient. Henderson of Yale has shown by experiments on dogs that unskillful anesthesia may readily induce shock. Shock is a term loosely applied to indicate conditions of greatly depressed vitality. McMechan gives the objective signs for the early diagnosis of shock during operation as follows: "A pulse rate of 100 and rising with progressively falling blood pressures reaching a systolic of 80 mm. and a pulse pressure of 20 mm. or less." He states that "the continuance of shock for a period of 30 minutes during operation results in the almost inevitable death of the patient in 1 to 3 days." Most clinical forms of shock—except that due to hemorrhage—seems to result from an abnormally intense stimulation of the medullary centers. Crile has shown that this stimulation may occur from two sources. First from painful stimuli arising in an injured member, and second from fear, worry or excitement. General anesthesia abolishes the consciousness of pain, also the psychic origin of fear, but it does not abolish the nervous impulses arising in an injured part nor prevent those impulses from reaching the medullary centers. Accordingly he has been blocking the operative area with local anesthetics given in conjunction with general anesthesia. The general anesthesia being given mainly for psychic reasons. The induction of ether anesthesia is preceded by an excitement stage. Henderson has shown that by prolonging this excitement stage of ether in dogs for 15 or 20 minutes, that respiration failed and sometimes failed fatally—though the anesthesia was so light that the corneal reflex was not abolished. Carbon-dioxide is the normal stimulus to the respiratory center, and in the excitement stage of ether there is an increased or excessive breathing with a resulting acapnia or reduced carbon dioxide concentration in the blood

—hence the cessation of respiration. Artificial respiration usually restores.

It is known that all the general anesthetics will induce acidosis even in the normal individual. There are certain diseases in which there is a tendency to or a definite acidosis. General anesthesia greatly adds to the burden of these patients. There are certain disorders in which the loss of all safeguarding reflexes is harmful—pain and muscle spasm to splint injured parts. General anesthesia may be harmful in that it allows the patient to do things he should not do—to struggle and toss about, to strain, to cough, to vomit. There are certain operations which are made more difficult by the inability of the patient to co-operate. These risks are such that they may be generally gauged beforehand.

It is an accepted fact that no one form of anesthesia is satisfactory under all circumstances when used as a routine. Lundy of the Mayo clinic has suggested a balanced anesthesia, comparing it to a balanced diet on which the individual thrives. Any single article of diet when used alone or to excess would produce deleterious results but when several foods are used in combination it produces a balanced and healthful diet. So several anesthetics may be used in combination, no one in sufficient quantity to produce bad results, and yet sufficient to have the desired effect. Thus a preliminary hypnotic would tide the anxious mind over the period immediately preceding the operation. Local anesthesia would block the operative area and prevent pain impulses from reaching the medulla. A quick induction of general anesthesia with nitrous oxide or ethylene and switching to ether to obtain the desired relaxation.

Circumstances and equipment will sometimes govern the choice of an anesthetic. In a large hospital with plenty of assistants, under stress of work there may be no time for local anesthesia. On the other hand where anesthetists are poorly trained or lacking, and nurses to watch over an unconscious patient scanty, local anesthesia becomes an invaluable aid.

Recent medical literature contains

many enthusiastic reports showing the adaptability of local anesthesia to the various fields of surgery. Kolischer, Jones and Schnetzer report 700 cases of kidney operations under paravertebral block with only four failures, due mainly to psychic reasons. Several of the cases were in children. They used 100 to 150 cc. of 1 per cent novocain.

Meeker of the Mayo clinic reports 300 cases of neck surgery under cervical plexus block, describing a new route for reaching the nerves, the lateral oblique. By this route he claims it impossible to enter the spinal canal or injure the vertebral vessels. He states that in the last five years the use of local anesthesia in thyroid surgery has increased from 2 per cent to 29 per cent, and the use of combined local and general has reached 42 per cent. The employment of ether alone has decreased in the same period from 98 per cent to 3 per cent.

Parker Symms of New York reports 64 cases of hemorrhoidectomy under sacral anesthesia, using the clamp and cautery method. He used 30 cc. of 1 per cent novocain deposited in the sacral canal with 95 per cent satisfactory anesthesia.

E. C. Shaw of Baltimore reports 100 cases of prostatectomy under sacral anesthesia with 17 per cent failure to completely anesthetize. He obtained best results with 15 to 20 cc. of 3 per cent solution. Hugh Young using the same technique reported a month ago in J.A.M.A. on 165 cases of prostatectomy with 16 per cent failure. No severe reactions except in one case in which consciousness was lost for a few moments.

Meeker and Bonar working at the Cook County Hospital report 90 cases where sacral anesthesia was used in obstetrics. In 33 of the cases the sacral anesthesia was combined with the trans-sacral block but the latter procedure was abandoned on account of the difficulty of entering the several sacral foramina in the parturient who could not be placed in the proper position or kept quiet for the injection. There was one failure in anesthesia and in nine others the anesthesia was incomplete. In several the anesthesia did not last till the termination of labor and the injection was repeated one or two times without untoward results.

The average duration of anesthesia was 2 hours. They conclude that if the injection could be so gauged that birth would occur before the anesthesia wore off, or if an anesthetic or combination of anesthetics could be secured which would prolong the anesthesia to 5 or 6 hours, that sacral anesthesia would be the method of choice in obstetrics. When anesthesia was established, version could be done, forceps applied, bags inserted and lacerations repaired. The patients became as quiet after the injections as if labor had ceased, but the uterus continued contracting. They state it necessary to watch the uterine contractions and instruct the parturient to bear down or the labor will be prolonged.

DeLee reports 67 cases of low cervical section under local infiltration anesthesia and claim that local anesthesia is the method of choice for all cesareans. In nearly half of his cases the local was supplemented at the proper time with short inhalation anesthesia.

Cohen of New York reports several cases of fracture in which local infiltration was used at the point of fracture, between and around the fractured ends, with success, obtaining sufficient muscular relaxation. Braun had forty similar cases. Farr prefers a transverse infiltration block of the bone a few centimeters proximal to the site of the fracture, where the large nerve trunks cannot be blocked higher up.

The success with local anesthesia in surgery of the abdomen has been less outstanding than in other regions of the body. This is perhaps due to a lack of clear understanding of the innervation of the abdominal organs. It is generally taught that the sympathetic and vagal systems carry no sensory fibers. That the intestines can be cut or cauterized without producing distress to the patient. When distress is caused it is attributed to irritation or traction on the parietal peritoneum which receives sensory nerves from the cerebrospinal system. Intestinal, renal, and hepatic colic was likewise explained. Recent work indicates that the sympathetic system does carry sensory fibers, and that by blocking the sympathetic nerves, surgery with in the abdomen is carried out with more



success than formerly. The blocking of the celiac plexus, immediately below the diaphragm at the level of the second lumbar vertebra has given complete anesthesia of the upper abdominal organs. It has also been used therapeutically in stopping the pains of gall-stone, renal and intestinal colic. DeTakatas recently reported a series of cases from several operators on the continent with a discussion of the value of the two routes of approach for blocking the splanchnic nerves. The anterior route available when the abdomen is opened and the posterior route used before the abdomen is opened. No deaths were reported in over a thousand by the anterior route, while the death rate from the posterior route was .32 per cent. Farr of Minneapolis probably is the most outstanding operator in the abdomen under local anesthesia. Ninety-five per cent of all biliary and gastric surgery is done under local alone. He does not block the coeliac plexus but interrupts the sympathetic fibers proximal to the site to be operated on. He uses a special tilting table, elastic retractors, and a pneumatic injector. He reports 220 cases of acute and subacute cases of appendicitis 98 per cent of which were operated under local alone.

Spinal anesthesia is perhaps the most dangerous of all when used as a routine. Labat reported 2,000 cases with 2 deaths. Several surgeons at the Los Angeles General Hospital operated 6,000 times under spinal with 6 deaths. Jannesco in France has operated 6,200 times under spinal in a period of 18 years without any death. Hugh Young reports 180 cases of thigh amputation, 90 under ether, with 2 deaths, and 90 under spinal with one death.

The fact that most of the work under local anesthesia has been done in the large clinics where skilled anesthetists are available and where the margin of error in its administration would be the least, is an attestation to the safety and value of local anesthesia. Even surgeons who operate routinely under inhalation anesthesia reserve their bad risk cases for local anesthesia. Ernest Miles reports the mortality rate from operation for carcinoma of the rectum dropped from 25 per cent to 10 per cent since local

anesthesia or sacral plexus block has been used.

It is to the general practitioner who often must play a lone hand in injuries and accidents and minor operations that local anesthesia should be of the greatest advantage. The fact that it is not used more in these regions is perhaps due to the lack of familiarity with the method. This is in striking contrast to the dental profession where the use of local anesthesia has become almost universal.

Novocain or procain is so outstandingly safe and efficient when combined with the proper amount of adrenalin that no other drug need be considered for injection. When properly used the mortality rate from novocain will be almost nil. Both Allen and Farr state in their text books that they have never had a case of serious novocain intoxication. In the years 1920 to 1924 a committee of the A.M.A. sent out questionnaires to the surgical sections with a view to determine the toxicity or fatalities from the use of local anesthetics. They obtained reports of 70 deaths from their use, very few of which had been previously reported in the literature. In spite of the fact that nearly 90 per cent of those replying used novocain only 5 deaths were attributed to novocain. Four of these were in cases of tonsillectomy. Autopsy revealed one to be status lymphaticus. In two an excessive amount of adrenalin was used, 1 minum to each cc. of solution, and about 12 cc. used in the injection. In the other tonsil case the adrenalin was not stated. The other death was after the infiltration of a small amount of novocain solution in a case of extensive burn. Death occurred in 20 minutes.

Emel Meyer, the chairman of this committee, last month reported 14 additional deaths which had come to him in the last three years. Eight of these were due to novocain. In one which was closely observed death could be accounted for only by an anaphylaxis.

Adrenalin is extremely toxic in some cases, particularly in thyrotoxicosis. Two deaths have been reported from the injection of adrenalin into the turbinate body, one 10 minims, the other 15. Dinsmore of the Cleveland clinic reporting on



the adrenalin sensitization test for thyroid disease reports one case in which 6 minims of adrenalin was injected subcutaneously with an immediate rise of blood pressure of 92 mm., in another the rise was 72. The average rise in several hundred cases was only 18. This sudden increase in pressure may lead to an arrest of the heart action. Novocain when injected intravenously is extremely toxic but when infiltrated into the tissues is practically non toxic. Quinine and urea was formerly used by Crile in blocking the operative area and was an ideal anesthetic but when used in large quantities it occasionally produces necrosis of tissue, and he now uses  $\frac{3}{4}$  of 1 per cent novocain.

The question of dosage is frequently raised. Labat states that 250 to 300 cc. of a  $\frac{1}{2}$  per cent solution may be safely used in the average patient; 100 to 150 cc. of a 1 per cent solution and not more than 30 cc. of a 2 per cent solution. For spinal anesthesia he uses 10 to 12 centigrams dissolved in spinal fluid. Babcock of Philadelphia considers failures with local anesthesia as due to insufficient solution and considers 500 cc. of a 1 per cent solution or 2,000 cc. of a  $\frac{1}{4}$  per cent solution as the maximum dosage. The dosage for sacral anesthesia varies greatly with the different authors. Allen suggests 40 to 50 cc. of a  $\frac{1}{2}$  per cent solution. Harris of Chicago uses 30 cc. of a 1 per cent solution. Meeker and Bonar in their obstetric cases used 40 to 50 cc. of 1.5 per cent solution. Farr uses 90 to 120 cc. of a 1 per cent solution. Shaw of Baltimore injected 11 fresh cadavers with colored solution and found that the sacral canal would contain only 15 to 20 cc. When 30 cc. was injected the colored solution was found as high as the third thoracic vertebra. He accordingly uses only 15 or 20 cc. of a 3 per cent solution.

The same dosage cannot be used in every case. Tolerance varies directly with the weight of the patient whether overweight or not. It varies indirectly with the variation of age from the adult age (25 to 50 years). The younger the patient below this age the less the tolerance, and the greater the age above this the less the tolerance. It also varies in-

directly with the variation of blood pressure above or below normal. The general robustness and the disease from which he suffers also affects the tolerance.

The key to success is enough solution properly placed in the tissues plus the proper psychic management of the patient. This demands a thorough knowledge of neuro and topographical anatomy. In certain regions of the body comparatively large areas can be anesthetized by injecting the nerve supplying that area, at a single point. In other regions where the nerve supply is from several sources an infiltration directly in or immediately surrounding the part will serve better. Thus the brachial plexus can be easily blocked at the mid point of the clavicle, giving anesthesia of the entire arm. The intercostal nerves can be blocked at the lower margin of the ribs for operations on the thorax. In regions as the abdominal wall where the nerve supply is from many of the spinal segments not easily located it would seem simpler and easier to directly infiltrate at the point of incision. Hernia operations are particularly well suited for regional block, so that even the novice is successful on his first attempt.

Regions of the body which are most prone to injury, such as the head, face, neck, hands, feet, anal and perineal regions, lend themselves well to the use of local anesthesia. With local anesthesia most of these become office procedures and have an economic advantage both from the standpoint of patient and physician. The region of the forehead may be blocked by a line of infiltration above the orbits blocking the supraorbital and supratrochlear nerves. The lateral side of the head may be blocked by a line of infiltration from the angle of the eye to the upper margin of the ear. The posterior region of the head may be blocked by a line of infiltration from the tip of one mastoid to the other. The infiltration continued on the other side of the head giving anesthesia of the entire scalp. The anesthesia extends to the bone and trephining may be done.

In extensive operations on the face it will be necessary to block the Gasserian ganglion. In more superficial operations

local infiltration and infiltration block will be satisfactory. The infraorbital nerves may be blocked 1 cm. below the orbits at their foramina of exit giving anesthesia of the lower eyelid, nose and upper lip. The lower lip may be anesthetized from a point of puncture on the chin with a V shaped infiltration to each angle of the mouth. This may also be accomplished by blocking the mental nerve at its foramen of exit, or the mandibular nerve may be blocked as practiced by the dentists.

The superficial structures of the neck (anterior) may be blocked by a line of infiltration along the posterior border of the sternomastoid muscle. For the deeper structures it will be necessary to block the cervical plexus near the transverse processes of the vertebra.

A finger may be blocked by a circular infiltration around its base. Where more than one finger is involved it will be easier to block the nerves involved at the wrist. Either the radial, median or ulnar may be easily reached. Circumferential infiltration at the wrist with blocking of the median and ulnar will give anesthesia of the entire hand.

The entire sole of the foot may be blocked by an injection around the posterior tibial nerve at the level of the internal malleolus. This combined with a circumferential infiltration of the ankle and the blocking of the peroneal nerve which is superficially situated as it winds around the head of the fibula will give anesthesia of the entire foot.

An infiltration around the anus will allow for operations for piles, and by extending infiltration to include fistulous tracts these may be operated on. Perineal repairs can likewise be readily done under infiltration anesthesia. Some will prefer the sacral block for these cases supplementing it with infiltration when the sacral block does not give satisfactory anesthesia.

Patients being operated under local frequently state that they can feel what is being done but that it does not hurt. Painful stimuli are abolished before the tactile nerves are paralyzed. For this reason it is important to have the confidence of the patient or he will interpret these tactile impressions as painful

stimuli and complain accordingly. One of the easiest ways to lose the confidence of the patient is to make multiple skin punctures through an unanesthetized skin. A primary skin wheal should be made intradermally with a small fine needle and subsequent stations made from this. The integument of the palms of the hands and the soles of the feet should never be penetrated as it is well supplied with sensory nerves, and very difficult to penetrate and to do so is not necessary.

I have done the following operations under local anesthesia with satisfaction: Inguinal hernia, hydrocele, hemorrhoids, anorectal fistula, perineal repair, ischio-rectal abscess, Bartholin abscess, amputation of fingers and toes, bunions, periosteal abscess of femur, cautery for growth on nose, removal of foreign bodies from palms of hands and soles of feet, resection of rib for empyema, etc.

From my observation and experience which has been somewhat limited, it is my belief that local anesthesia is not used to the extent which its merits justify. I believe it to be the safest form of anesthesia we have and as such should be used whenever possible.

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### Undulant Fever

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Secretary Kansas State Board of Health.

Read at the quarterly meeting of the Solomon Valley Medical Society, held at Beloit, November 22, 1928.

At the spring meeting of the health section of the League of Nations, Dr. Madsen, recognized as the foremost health authority in Europe, stated the most important problem facing health departments at the present time is undulant fever. No less than thirty-five names have been applied to this disease, the more common being Malta fever, rock fever, Mediterranean fever, Crimean fever, and in Texas the name of "dust fever" has been applied to it.

The term most generally used until a few years ago was Malta fever. Physicians of Malta, however, issued a protest against the use of the term, because of the damaging effect on the reputation of the island, and appealed to medical writers to discard the term in favor of the more proper name "undulant fever."



Capt. M. L. Hughes of the English army medical staff in 1897 originally proposed the name "undulent fever," it was recommended by the international congress of medicine held in London in 1913 and is generally used by English writers. The term "undulent fever," though not perfect, is the most suitable designation as it describes one of the most constant and characteristic features the undulations of the temperature curve. The temperature constitutes the primary, in many cases the only, clinical manifestation; and although the curve may not always be of the "undulent" type, yet the phenomenon is sufficiently frequent and typical to justify the term.

It is only within recent years that the question of undulent fever in the United States has been given any consideration. According to text books and teaching this disease occurred epidemically in the islands and along the shores of the Mediterranean sea, but only occasionally elsewhere. It was taught that infection occurred almost entirely through the ingestion of milk or milk products, of infected goats, or the handling of these animals.

After the English occupation of Malta about 1800, a vast amount of literature relative to fever prevalence on the island and coast of the Mediterranean began to appear. These writings were mainly concerned with the disease now known as Malta fever or undulent fever. Marston who was stationed on the island of Malta for a period covering the Crimean wars was the first to differentiate Malta fever from other fevers seen at Malta and other places on the Mediterranean coast.

The specific cause of Malta fever was discovered by Bruce, an English army surgeon in 1889 and designated as the *Brucella melitensis*. Bruce began his work in 1886 which lead to the discovery of the specific germ in the spleen of a patient who had died on the fifteenth day of the disease. Bruce found enormous numbers of micrococci scattered throughout the tissue. At times he was not permitted to make autopsies, and in some of these cases he would withdraw some of the spleen juice by means of a trochar and then was able to demonstrate the germ. Later, he discovered the germ

could be grown on agar. Bruce inoculated monkeys with pure cultures of the organism and these animals developed the disease which ran a similar course to that in man. Some of the monkeys died and on autopsy identical organisms were isolated as had been found in the bodies of men dying from the disease.

The first known case of Malta fever in the United States was reported in 1905 by Col. C. F. Craig, Medical Corps, United States Army. The patient was a nurse who contracted the disease in Washington, D. C., probably from nursing infected soldiers. Craig also reported nine other cases occurring in soldiers returning from the Philippines. In this report, he stated he was convinced that Malta fever existed in the warmer portions of the United States.

Mohler and Eichhorn of the United States Bureau of Animal Industry state that in 1905 the Department of Agriculture brought goats from the island of Malta to this country for the purpose of establishing a goat milk industry. On examination, many of these animals were found to carry the micrococcus melitensis, and as a result of this discovery, the imported goats and their offspring, so far as possible, were destroyed.

Ferenbaugh, also a medical officer of the United States army, about 1910 reported five cases in Texas. All five had worked with and drunk goat's milk. Following this report, Ferenbaugh and Gentry were detailed by the Surgeon General of the United States army to make field investigations of the disease in Texas. Their investigation reported in 1911, show that Malta fever had in all probability been present in Texas for a period of not less than twenty-five years. They made serological tests on 128 goats and found 19.4 per cent positive for Malta fever, but because of unfavorable weather conditions were unable to isolate the *Brucella melitensis* from any of the goats.

According to Yount, the State Board of Health of Arizona, issued a circular on Malta fever in 1912, in which the following precautions were advised:

"(1) All goat's milk should be boiled or brought to the boiling point before it

is used for drinking purposes, on cereals, or in coffee.

“(2) All goat corrals or bedding grounds, should be located at a distance from the residence.

“(3) Avoid sleeping in or near goat corrals.

“(4) After handling goats always wash the hands well with soap and water before eating.”

In recent years, however, increasing numbers of reported cases in this country indicated undulant fever was much more common than had been anticipated. It was thought there was a close relationship between the *B. melitensis* and the *B. abortus* which is the cause of infectious abortion in cattle.

Through the magnificent work of Bang of Denmark, the *B. abortus* was discovered in 1896 and the specific agglutination for this disease was developed in 1909 by Sven Wall, a countryman of Bang, but not brought to this country until about 1912.

For some time, the infectiousness of *B. abortus* for man had been suspected, but absolute evidence was not obtained until 1924 when Keefer described such a case.

It may therefore be stated there are in general, two types of undulant fever—the one from infection with the *B. melitensis* and the other, infection with the *Bacillus* of Bang or *B. abortus*, of which there are a number of varieties, and have been obtained from bovine, caprine, porcine and equine sources. The only accurate method, however, of differentiating the type of infection is by laboratory procedure.

Infection with *B. melitensis* is contracted through the drinking of goat's milk and through the handling of infected animals or carcasses. Infection with *B. abortus* is contracted in a similar manner, although recent literature reports cases contracted through direct contact with infected human beings. Tice states occasional cases have been reported which were thought to depend on infection through domestic animals, as the handling of puppies from a dog which had aborted.

Undulant fever infection is characterized by an irregular temperature rang-

ing from sub-normal to 102-105; shifting articular pains; frequent and profuse sweating; long duration and low mortality.

The incubation period usually lasts about two weeks, but cases have been reported when the first opportunity for infection preceded the onset of the disease by only five or six days. Other cases have been reported where the incubation period was longer than a month.

The onset is rather protracted, characterized by general malaise, pains in the back of the neck, or general muscular pains and anorexia; a temperature which reaches its highest point in late afternoon or evening, with marked remission in the morning. As with typhoid fever there is a progressive rise in the temperature curve for a period of several days, after which time there follows a gradual decline. Usually after a few days of normal or near normal temperature, there is a recurrence, which follows a similar curve as the initial rise although not usually so severe. It is through these temperature waves, that the appropriateness of the term “undulant fever” is recognized.

In the majority of cases, there is a marked constipation, but in the malignant type of infection with high temperatures there may be marked vomiting and early and severe diarrhea.

The tongue usually shows a white, thick dorsal coat, with the sides and tip clean.

Profuse sweating occurs in the great majority of the cases and is one of the outstanding symptoms of the disease.

Bleeding occurs in many cases, especially epistaxis.

Dejection of spirits, irritability, insomnia and weakness are usually present. In cases occurring in the winter and early spring, bronchitis occurs in the majority of cases, but this condition is not usually found in cases contracting their infection during the warm months.

Joint pains occur quite frequently, with tenderness and swelling, most frequently in the hip, shoulder, ankle and knee joints. These acute manifestations remain a comparatively short time and may skip from joint to joint.

Due probably to the toxic effect on the



heart muscle there is an irregularity of the heart action. The spleen is enlarged and tender on palpation. The density of the splenic tissue, however is decreased which renders very difficult the detection of the enlargement.

Even with an excessively high temperature, the apathetic, toxemic state associated so closely with typhoid fever is absent.

There is a marked decrease in the number of red cells, a fall in the hemoglobin percentage and a moderate leukopenia, in which the polymorphonuclears show a greater diminution than the lymphocytes.

Until 1927, only occasional cases of undulant fever were reported to the Surgeon General of the U. S. Public Health Service. During the year 1927, however, 112 cases were reported from twenty-two states and the District of Columbia. For the first six months of 1928, twenty-nine cases have been reported from twelve states. For the first eight months of 1928, fifty-two sera, positive for undulant fever, were received at the hygienic laboratory from twenty states.

In the past nine months fourteen cases of undulant fever have been reported in the state of Kansas. The onset of one of these cases was given as December 26, 1926, one as April 10, 1927, and the third as September 12, 1927. The remaining cases according to the reports had their onset in 1928. The average time intervening from the onset of the infection until a diagnosis was made in eleven of the cases averaged two and one half months. In addition to the fourteen reported cases, there was one case diagnosed early during the year 1927, at Ft. Riley, and one case, a resident of Topeka, recently diagnosed in the South Bend clinic. This makes, therefore, a total of sixteen known cases that have been recognized in the state since January 1, 1927.

Because of their value, I wish to present the case histories of two of the patients. The first is furnished through the courtesy of Lt. Col. J. W. Grissinger, M. C., of Fort Riley, and Major C. C. Hillman, M. C., formerly of Fort Riley, but within the past few months trans-

ferred to Walter Reed Hospital at Washington, D. C.

#### CASE NO. 1

Patient is a white male, age 42 years, a first sergeant of a cavalry troop.

About July 1, 1927, patient went on furlough and spent two months in Indiana, Ohio and Kentucky, returning to Fort Riley about September 1. About September 10th he observed that he was not feeling well and was feverish, especially during the night. He gradually became worse, losing weight and suffering from anorexia, headache, nervousness, generalized aching of the body and soreness of the tongue. He observed that for a few days he would have fever constantly day and night, sometimes with profuse night sweats, while for other periods he would have fever only late in the day. The condition gradually grew worse until the patient was forced to quit work and enter the hospital November 13, 1927, this being the first time he had come under medical supervision.

Physical examination showed the soldier to be twelve pounds underweight, a spleen that was just palpable, with several septic teeth and a temperature ranging from 98 to 102.2, with a pulse rate of 72 to 96. Urine negative. Blood showed no growth upon culture and the Wassermann was negative. Blood count showed a moderate secondary anemia with slight leukopenia (4,600-5,200) and relative lymphocytosis (29% to 60%) stool and sputum examinations, x-ray of the chest and E. E. N. and T. negative. Patient at on time showed any skin eruption or petechiae.

About November 20, three septic teeth were extracted without any influence upon his febrile condition.

On December 3rd a blood specimen was obtained and forwarded to the hygienic laboratory and the Army Medical School for agglutination tests for the abortus melitensis group and for B. tularensis. Reports from these laboratories showed strong positive agglutination reactions to B. melitensis and B. abortus and negative reactions to B. tularensis.

Agglutination tests of two cows, whose milk the patient had used were both positive for B. abortus infection, although there was no history indicating



contagious abortion infection in either cow.

In view of the findings a diagnosis of undulant fever, (infection with the *abortus melitensis* group) was made.

On April 30, 1928, the Army Medical School laboratory reported the patient's blood agglutinated in a dilution of 1-5000, but within three months had dropped to 1-500.

This was the fourth case diagnosed at Fort Riley and within a short time specimens of blood were secured from the dairy cows on the reservation. Specimens were secured from thirty-three cows and eight were positive for infection with the *abortus* variety.

#### CASE NO. 2

The history of the second case is furnished through the courtesy of Dr. C. C. Hawke of Winfield.

The patient is a white female, age 58 years. First seen by the physician about April 1, 1928. History of recurring attacks of temperature, reaching 102.6. These attacks occur at about nine day intervals and last two or three days. Complaint of weakness and lassitude. Red count 4,000,000 and hemoglobin 85 per cent. No complaint of tenderness or pain. Heart action good. Laboratory examination showed a positive trichomonas intestinalis infection.

About April 1, or the date corresponding to the onset, the patient had an attack of diarrhea, which was diagnosed as ptomaine poisoning. Each wave of temperature was accompanied by an attack of diarrhea.

The patient disliked milk very much, and there was no history of contact with hogs or cattle.

Under date of August 11, 1928, a letter was received from the physician who stated that four successive stool examinations had been negative for the trichomonas, that the patient had left the hospital a few days previously but had shown very little improvement.

A general review of the history of the reported cases shows the following:

Occupation: 3 soldiers in the U. S. Army; 1 veterinary student; 1 laborer; 5 housewives; 1 cigar salesman; 1 student of high school age; 1 produce dealer and 1 a child under school age.

Sex: 8 were males and 6 were females.

Age: 2 patients were under twenty years of age; 1 five years, and the other 17, both females; 4 were between twenty and thirty years, 2 males and 2 females; 1 male and 1 female between 30 and 40 years; 2 males and 1 female were between 40 and 50 years, and 2 males and 1 female were between 50 and 60 years.

Nine of eleven patients gave a history of being milk drinkers. The other two gave histories of using cream on cereal, in coffee and quantities of butter.

The hemoglobin percentage for seven patients ranged from 62 to 100, the average being 82.

The red count for seven patients varied from 3,600,000 to 5,300,000, with an average of 4,250,000. The white count for nine patients ranged from 2,900 to 14,500, with an average of 7,200. One patient had a white count of 2,900.

A summary of the symptoms of twelve of the fourteen cases is shown in Table 1.

#### COMPLICATIONS

Pneumonia and orchitis are the more common and most serious.

#### PROGNOSIS

The disease shows a low mortality—about two per cent of the cases resulting fatally. One of the reported cases in Kansas died in September.

#### TREATMENT

No specific treatment has as yet been developed. Some authorities state excellent results have been obtained from the use of vaccines, this treatment being confined to the chronic type of cases. Acraflavine and mercurochrome, have also been used.

#### PROPHYLAXIS

Pasteurization of all milk supplies would eliminate all chance of infection through this medium. There is, however, the chance of infection through the medium of other unpasteurized dairy products as experiments have shown, *B. abortus* to remain alive in raw cream for a period of 8 to 10 days and in butter for more than 140 days.

#### DIFFERENTIAL DIAGNOSIS

The diseases which most resemble undulant fever and must be differentiated, are:

Typhoid fever,  
Paratyphoid fever,

Tuberculosis,  
Aestivo autumnal malaria,  
Rheumatism,  
Focal infection,  
Neurasthemia.

#### TYPES OF B. ABORTUS

The majority of undulant fever cases result from infection with the bovine or porcine variety of organism. The porcine type of organism may infect cattle and humans contract the infection through drinking the milk. Laboratory procedures show the porcine variety to be more virulent in guinea pigs than the bovine variety. The bovine variety does not produce abscesses of the lymph nodes, spleen or liver of guinea pigs as occurs in infection with the porcine type. Infection with the porcine variety may occur

There are many unsolved problems relating to undulant fever, in addition to the prevalence of the disease. Apparently a comparatively small percentage of people are susceptible to the disease. Children and young adults apparently have a protection against the disease, as relatively few cases are reported under twenty years of age.

It is believed an extensive study by laboratory methods of a large number of dairy cattle and a follow up study of the patrons of the dairies would be of great value.

Hardy, however, has stated that the more cases seen, the more he is convinced that the skin is the portal of entry in great number of cases.

Case No.	Sex	Color	Age	SYMPTOMS AND FINDINGS													Agglutination dilution
				Temperature	Anorexia	Generaliztd Pair	Perspiration	Nervous	Irritable	Epistaxis	Bronchitis	Stomatitis	Headache	Constipation	Coated Tongue	Chills	
1	M	B	31	104	—	†	†	†	—	—	—	—	†	—	—	†	1-640
2	M	B	25	103	—	†	†	†	—	—	—	—	—	—	—	—	1-1280
3	M	W	42	102.2	†	*	*	†	†	†	†	*	*	*	*	—	1-640
4	M	W	22	—	*	*	*	†	*	*	—	—	—	—	—	*	1-2560
5	M	W	52	104	—	—	†	†	†	—	—	—	†	†	*	*	1-320
6	F	W	58	102.4	†	*	*	†	*	*	—	—	*	—	*	*	1-120
7	F	W	28	104	*	*	*	†	*	—	—	*	*	*	*	†	1-2560
8	M	W	43	104.6	*	*	*	†	*	—	—	*	*	*	*	—	—
9	M	W	5	—	—	—	—	—	—	—	—	—	—	—	—	—	1-150
10	F	W	17	104	†	†	†	†	†	†	—	*	*	*	†	*	1-2500
11	M	W	54	103	—	†	†	†	†	—	—	*	*	†	†	†	—
12	F	W	27	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13	F	W	35	104	—	†	—	—	—	—	—	—	*	—	—	*	1-150
14	F	W	40	102	*	*	*	†	†	*	—	—	†	*	*	—	1 160
* Slight																	
† Moderate																	
‡ Severe																	

\* Slight  
† Moderate  
‡ Severe

through a break in the skin, this type of infection occurring not infrequently in packing house workers.

At the 57th Annual Meeting of the American Public Health Association held in Chicago, October 15-19, one-half day was given to a symposium on the subject of undulant fever. The general consensus of opinion was that undulant fever infection is much more prevalent than is evidenced by the number of reported cases, and that agglutination tests in suspicious cases of typhoid or similar conditions should be made a routine laboratory procedure.

Evans expressed the belief that the majority of the cases are ambulatory and only the severe infections are seen by physicians.

#### CONCLUSIONS

1. Undulant fever infection is present in Kansas as evidenced by reported cases.

2. The disease is acquired through use of infected milk and dairy products and through breaks in the skin.

3. Mild and atypical cases are undoubtedly frequent and diagnosis may be made only by laboratory procedure.

4. The mortality is low, but from a standpoint of prolonged course and resulting invalidism it is a more serious disease than the death rate would indicate.

5. From the public health viewpoint much work remains to be done in determining the extent of the disease, the



factors concerned in its dissemination and the best methods for its control.

6. Undulant fever presents a serious problem. Not alone to those who might become infected with the disease, but also to all agricultural communities.

7. Undulant fever presents a very important problem to the physicians of Kansas and to the medical profession of the entire world.

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#### R

### The Treatment of Secondary Anemia

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In every individual blood destruction and blood regeneration are constantly going on. Normally there is a balance between these two processes by which the red blood cells and the hemoglobin are kept at almost a fixed level. With a loss of the normal balance, there is either an anemia in which the blood loss overbalances the gain, or a polycythemia, in which the gain overbalances the loss. Anemia is by far the more common result.

Anemia is always a symptom of some underlying abnormal condition, which may or may not be apparent. Not infrequently the effects of the symptoms are more serious than those of the disease. An anemia due to a known cause is termed a secondary anemia. In general we designate as secondary the anemias with a color index of one or less, excluding those with a color index above the normal. The latter constitute the macrocytic

anemias of which pernicious anemia is the best example.

A very large number of diseases and disease conditions may give rise to a secondary anemia. Perhaps 90 per cent of all the pathologic conditions seen in clinical medicine are associated at some time in their course with some degree of anemia. It is thus probably the most common of all symptoms of disease. The most important causes of secondary anemia may be placed in four groups. These will include a large percentage of all the cases of anemia seen by the clinician or hematologist. The groups with classic examples are:

1. *Acute and chronic hemorrhage*, as from trauma, uterine disturbances, hemorrhoids, and ulceration of the gastro-intestinal tract.

2. *Malignancy*—Anemia is common in malignant tumors in all locations. Malignancy of the stomach and colon usually shows a high grade anemia.

3. *Acute and chronic infections*, as acute rheumatic fever, chronic sepsis in such surgical conditions as osteomyelitis, and chronic focal infection.

4. *Acute and chronic intoxication*—Classic examples of this group are the anemia due to such poisons as lead, from metabolic disturbances as myxedema, with nephritis, or associated with an achylia gastrica.

Thus in every secondary anemia we have to consider the possibility of hemorrhage, of malignancy, or infection, and of intoxication. The problem of etiology cannot be stressed too strongly because the treatment of a secondary anemia is necessarily concerned, first of all, with the treatment of the underlying cause. The success of treatment in most cases will depend in a large measure on the completeness with which cause can be eliminated. In determining the treatment to be instituted, the following questions must be answered in every case:

1. Has the cause been removed?
2. How much rest and other general hygienic measures are needed?
3. Shall iron be given?
4. Is transfusion indicated?
5. What diet shall be prescribed?

The more important groups of secondary anemia will be considered from these different standpoints:

*Acute hemorrhagic anemia*—The treatment of an anemia due to acute blood loss brings up some special problems. The sudden loss of one-third of the total blood volume is usually fatal unless immediately replaced. The serious aspect is the sudden decrease in circulating blood volume. Up to two-thirds of the original blood volume may be removed over a period of twenty-four hours. The blood volume is in such a case gradually replaced, although the hemoglobin is constantly falling.

The treatment of such an anemia must be directed towards replacement of the blood volume. The infusion of salt solution is of some temporary value. Solutions of gum acacia of higher viscosity are seldom available for emergency use. Transfusion of blood is always the treatment of choice, thus replacing both the blood volume and the oxygen-carrying constituent. The loss of two liters of blood, a persisting fall in blood pressure, or a pressure below 90 with other signs of circulatory failure, as rapid pulse, should always be absolute indications for transfusion after acute blood loss. After tiding over the acute period, the problem of treatment is no different from that of chronic hemorrhagic anemia.

*Chronic hemorrhagic anemia*—After an anemia due to chronic blood loss is allowed to progress to a bone marrow insufficiency evidenced by the microcytosis, the very low color index, a low platelet count, and a leucopenia. This is especially true of excessive uterine bleeding and of hemorrhoids.

The need for removal of the cause is apparent, although often it is the part of wisdom to defer any operative procedure until the patient's general condition is improved. The first requisite in treatment is rest in bed. Rest is just as important in anemia as it is for a patient with active pulmonary tuberculosis. The importance of rest cannot be emphasized too strongly.

Iron should usually be given. It is always indicated with a low color index in which the red cells are not completely saturated with hemoglobin, as is usually

found in a chronic hemorrhagic anemia. The use of iron has had the virtue of time-honored use by master clinicians and now there is abundant experimental proof of its value in chronic hemorrhagic anemia. It should be given in large doses, preferably as the citrate or the chloride. Recently copper and other inorganic elements have received much attention. Their value in clinical work is yet to be determined.

The need for transfusion is determined by a number of factors. It is always preferable to begin treatment on the assumption that it is far better for a patient to form his own blood than to have it given by transfusion. If the hemoglobin is 50 per cent or above it is better to try the effect of rest, diet, and iron before transfusion is resorted to, unless there is need for haste in preparation for operation. If the hemoglobin is as low as 30 per cent and usually when the hemoglobin is between 30 and 50 per cent, transfusion is indicated. With the hemoglobin at such a low level, the blood volume is also much decreased, constituting another indication for transfusion. I have been giving a transfusion of 500 to 600 c.c. of blood two or three times a week until recovery is well under way.

The problem of diet is of the greatest interest at the present time due largely to the experimental work of Whipple and his co-workers. In animals an experimentally induced hemorrhagic anemia can be controlled at will by diet. This fact has been largely overlooked by clinicians in the past. In secondary anemia the most important thing is the completeness of the diet rather than the presence of any specific substance. It seems quite certain that liver has no specific effect as it does in pernicious anemia, although it is one of the best sources of meat proteins which are vitally necessary.

Whipple has shown that the least favorable groups of food for blood regeneration are the grains, breadstuffs, fish, dairy products, common vegetables, and some fruits. The most favorable are liver and kidney. In between these two groups come the leafy vegetables, skeletal muscle, apricots, prunes, raisins and peaches. A most excellent diet for secondary anemia is that prepared by Minot



and Murphy for patients with pernicious anemia with the exception that less emphasis is placed on the use of liver.

*The anemia of malignancy*—The anemia of malignancy is so often the symptom of a condition for which there is no satisfactory treatment. The treatment of the anemia is also necessarily unsatisfactory, but may be important in preparation for operation. Usually the anemia here is due to a depression of bone marrow function but may be complicated with mechanical loss of blood as in carcinoma of the stomach or colon. As a rule the cells are completely saturated with hemoglobin. The difficulty is primarily in blood cell formation. Iron is of little value. Transfusion is only a palliative measure but may be necessary as a pre-operative or post-operative measure. A full diet should be given.

*Anemia of infection*—The anemia of infection may be due to increased blood destruction or to a depression of the normal bone marrow activity. The latter is probably the more important factor. Often the infection, the causative factor cannot be removed, as in acute rheumatic fever, or only partly so, as in osteomyelitis. In other cases, as in dental sepsis, removal may be possible. The course of the infection is markedly influenced by the anemia. No other primary causative condition is so affected by anemia since the resistance of the body to infection is in large measure dependent on the state of the blood.

The presence of an infection is an added reason for insisting on rest and other hygienic measures. Usually iron should be given unless there is a hemolytic jaundice and a saturation of the red cells with hemoglobin, indicating already an excess of iron compounds. Transfusion is of the greatest value in the anemia of infection, since it influences for good both the primary condition, the infection, and the symptom, the anemia. It should be employed more often than has been the custom in the past.

Often a patient with an acute infection is kept for an extended period on a diet which furnished little of the elements necessary for blood formation. The diet should be planned especially in chronic

infections with anemia in mind. This requires the inclusion in the diet of leafy vegetables, meat proteins, and the hemoglobin forming fruits, apricots, prunes and peaches.

*Acute and chronic intoxications*—This is an interesting group due to widely different causes and brings up a number of individual problems in treatment. Lead poisoning is an excellent example. Hypothyroidism is often associated with anemia, the treatment of the anemia being dependent on the treatment of the thyroid condition. Anemia is almost a constant symptom of chronic nephritis.

Iron is usually indicated in this group. Transfusion is seldom necessary. Diet is most important. The need for rest in bed will vary with the intensity of the anemia. In chronic nephritis the meat proteins are usually interdicted, or allowed only in small amounts, if there is nitrogen retention. In such cases, apricots, prunes, raisins and peaches should be given in as large amounts as possible.

There is one interesting class of anemias without known cause, of definite secondary type, and always associated with an achlorhydria which probably belong in the intoxication group. These show a most marked response to iodine given as the tincture with hydrochloric acid and iron. Hypothyroidism may perhaps be a factor here.

#### SUMMARY

In secondary anemia the important points in treatment are:

1. Recognition and removal of the cause, if such be possible.
2. Rest in bed if the anemia be marked.
3. Administration of iron if the color index be below normal.
4. The judicious use of transfusion, especially when the cause is remediable.
5. Planning of the diet to include ample calories, vitamins, meat proteins and hemoglobin forming vegetables and fruits.

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#### Ethics

A. J. DAVIS, M.D., Logan

Read at a meeting of the Norton-Decatur County Society,  
October 24, 1928.

After having given this subject a preferred amount of investigation I find that the word *Ethics* or rather the full

meaning of the word *Ethics* is far reaching. It deals with man, not only as a source of action, but is closely related to psychology and sociology. It seeks to determine the principles by which conduct is to be regulated, not only with what it is, but what it should be.

Ethics leads to inquiry of certain kinds of conduct in any sort of avocation. Our viewpoint of ethics has to do with our happiness in our usual vocations and necessarily leads to inquiry to an ultimate end. While arguing that the good for man, must be something obtainable by man, it must be in man's self, and in his intellectual intelligence. If we should base our actions upon the principles of the Golden Rule (Do unto others as you would have them do unto you) and we acted ethically, we could come to the following conclusion: *i.e.* never let any one be better to you, than you would be to them. This is a basic principle that could be called mutual and I think would leave no room for unethical speculation, and show that our motives were of the best.

From a medical standpoint I think we are inclined to be negligent and allow ourselves to be influenced by the laity in making suggestions that are out of harmony with the very best ethics, thereby causing an unhappy situation between doctors. We have all had experiences with people, wherein we are called in to see patients, whom some other doctor has seen and is treating at the time we were called.

The family or someone who make themselves interested and want to have some other doctor and will let one give an opinion and then they will begin wagging their tongues. I believe under such circumstances it is wise to have the first physician in consultation or quit the case. We have all had such experiences and I think we should be on our guard for such tactics. This is a place where good ethics should prevail.

May I say at this time, that the modern method of educating the public is in many instances injurious to the public as well as the doctor. I think of the old proverb (when doctors disagree—who knows). But who is the doctor, who is it that flaunts his wares to the public as doctor? Is it the so-called Dr. Wiseman,

P.S.D., who if you write him and enclose him a self addressed stamped envelop, returns to you your envelop with instructions as to what sort of ethics to teach your children, or is it the Dr. Doe, dean of some dignified college, telling your children how ethically they were evolved from the monkey, or is it the brazen chiro or osteo (calling themselves doctors) who is telling the public that the regular graduate of medicine and surgery from a recognized college of medicine and surgery, is superannuated in his profession and that they are the latest medical discovery of the age, and that the only salvation for health and the pursuit of happiness is through them? I could mention more of this, but it would take up time worth more than the mentioning, but will say that so far as the above cult is concerned, I do not recognize them in the practice nor do I consult with them.

Before leaving this part of this subject I quote from a Kansas editor, Polk Daniels of the Howard, Kansas, Courant, who says: "Doctors do not advertise, 'ethics' prohibit, and so the opportunity is open for quacks to unload fake nostrums and cures on the uninformed public. No wonder a French woman asked, 'what is an ethic?' The medical world answers by stating, 'Please tell the French woman for me, if convenient, that an ethic is the difference between advertising and publicity—a distinction without a difference, that a quack cannot comprehend on account of previous condition of servitude and uniformity.'" It might not be good parlance to say anything of the older methods of ethics but when I was a young doctor, there was nothing said to the patient and very few times to the family, as to how much temperature the patient had. We did not go into details about symptoms. There was no argument. We examined the patient, told the family what we thought was causing the patient to be sick, left medicine with instructions as to how to give it and returned to our office. I am of the opinion that this sort of attitude toward the public would be better for the doctor and patient as well as the family. To say nothing of how much good it would do the public, on account of the present economic reconstruction in which



the new independence is so prominent, and the laity so eager to find fault.

Again we see another sort of doctor, having a disordered mind, who has for some reason better known to himself, become a *bally hooer*, a man practicing medicine and surgery in a class by himself. A man who seems to feel that he is big enough to take all the practice he can get, in any way he can get it. He is the sort of fellow that seemingly thinks he has done something that deserves meritorious comment from the laity. A man who delegates to himself a right to nullify some of the civic principles in and out of the community in which he lives. He is a supercilious sort of a fellow, who the doctor in his community keeps away from as far as he can. He is the nonchalant fellow who has his own code of ethics.

This kind of doctor don't get anywhere except as a small horse trotting in big harness. He is extremely unethical.

I have read in St. Luke's writings that a certain thing is neither fit for land, nor yet for the dunghill. I am convinced that the above doctor belongs in such a class and a weeding out is always good for a medical society.

And yet I am pleased to say that there is another class of doctors (physicians and surgeons if you please) who have a different attitude toward medicine, men in the profession who have as their ideal that which is for the betterment of the profession in general and their patients in particular. Those physicians and surgeons who have burned the midnight oil to obtain a knowledge that builds up the healing art of our profession and whom we do not hesitate to call in consultation or trust our patients to for special care for medical or surgical treatment. These high-class doctors are always ready and willing to give us the best they have in them, so long as we are ethical. Therefore we should be very careful to look to our own welfare and be on our guard to maintain the ethics of our profession.

In conclusion, the sentiments expressed in the following words are sufficiently numerous to give us an idea of ethical co-operation.

"It's not the guns nor armament  
Or the money they can pay,

It's the close co-operation  
That makes 'em win the day.  
It's not the individual,  
Nor the army as a whole,  
But the everlasting teamwork  
Of every bloomin' soul."

—Anon.

—————R—————

### TUBERCULOSIS ABSTRACTS

The patient who is rushed to the operating table with a dangerous appendicitis soon recovers and shortly returns to his accustomed routine more fit than before. The patient who has spent eighteen or more months in a tuberculosis sanatorium, when at last discharged as an "arrested case" learns that, for him, the day of discharge is "commencement day." In the face of pent-up energies, he must learn to reorganize his life or, at any rate, to curb enthusiasms to which he had previously been accustomed. He must realize that a sword of Damocles still hangs over his head. After-care of the arrested case of tuberculosis has long challenged the thought of the clinician and the sociologist. Two important reports, one from London, the other from New York City, recently issued on this subject, indicate that the problem is by no means solved.

#### Employment of Tuberculosis Patients in England

Conditions responsible for unemployment among the able-bodied members of a population are still more acutely reflected among the tuberculous workers. Fortunately, "it is a general experience that, whether trade conditions be good or bad, the consumptive worker who leaves his job to undergo treatment, returns to it if he makes a good recovery." The working capacity of the chronic case of tuberculosis is seldom more than 50 per cent of that of a normal worker and his labor is more unreliable because steady work cannot be maintained by him.

The advice to secure work in the open air, often arduous and exposed to all weather, is usually fallacious. An occupation that is free from worry and provides a good wage is far better. The best occupation for a tuberculous person is the one to which he is accustomed and at

which he can earn a good income, provided it can be carried out under reasonably hygienic conditions.

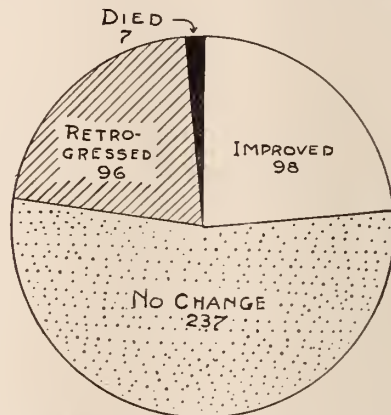
Case Committees have endeavored to fit arrested cases for employment and to secure positions for them. Their task has been difficult, involving not only the training and placement of ex-patients but also the persuasion of the employer and fellow employees that no danger is incurred in employing an arrested case of tuberculosis. Precise conditions of employment of tuberculous persons cannot be laid down as their capacity varies greatly. Light work in parks and gardens has been found most suitable. Absences from work of a month or more are not uncommon. In Leeds, there is a "Shop-in-the-Fields," equipped to cut firewood, to do general house repairs and to make brushes. Workers are also sent out on call to clean windows. During the first two years, the enterprise was run at a loss but a small profit was made in the third year. In the Spero workshops in London, fancy leather goods were manufactured. Difficulty was met in marketing the product and it has been necessary to subsidize the venture. From the standpoint of improving the health and morale of the workers, this experiment has, however, been a decided success. Many other experiments of a similar nature are also described.—Report by the Medical Officer of Health (London), January, 1928.

#### Employment of the Tuberculous in New York

The New York Tuberculosis and Health Association in 1923 undertook a three-year experiment in supervising employment and medical follow-up of quiescent and arrested cases of tuberculosis. The Reco Shop, a training school for tuberculous ex-service men, conducted in co-operation with the Federal Government, offered training in jewelry making, watch repair and cabinet work but was finally, for good reasons, abandoned. The Altro Shop, a model garment factory for the tuberculous, while limited in scope, has been very successful and serves a very useful purpose.

Some conclusions, based on a careful analysis of cases, medical, social and economic, are that, while the group is large-

ly composed of poorly paid and untrained workers, it is surprisingly self-supporting. Eighty-two per cent earned a fairly good employment record. Excluding the cases diagnosed as non-tuberculous, 40 per cent were classed as incipient, 50 per cent as second stage and



Progress of 431 tuberculosis patients under Vocational Service of New York Tuberculosis and Health Association between initial and final examination. Based on extent of lesion and clinical symptoms.

10 per cent as far advanced. Medical studies made of 431 workers at the time of employment and again on discharge, based on the area of the lesion, showed that in 346 the diagnosis remained the same, in 28 the lesion decreased and in 57 it increased. A similar tabulation, based on "condition," showed 279 unchanged, 86 improved and 66 worse.

A summary of the conclusions is as follows:

Indications are that a medically supervised vocational and employment service for tuberculous ex-patients will aid materially in carrying through a recovery already started and will help to reduce the relapse rate.

Such a service may be run more economically in connection with similar service for other types of handicapped persons and will suffer no loss from such combination provided it be given expert supervision by physicians familiar with tuberculosis.

To be effective, such a service should have the benefit of family case work service, either within the organization or through close co-operation with family agencies.

For the large majority of patients who are unable to return immediately to full-



time work, some special provision in part-time shops should be made.

Industrial training in skilled trades for the tuberculous has not proven possible from the vocational point of view for psychological and economic reasons. The problem of inducing the patient to take suitable work could be greatly facilitated by adequate and continuous vocational counselling in the sanatorium.

It is not feasible to list trades and jobs which are suitable for the tuberculous but rather to list the factors to be avoided and sought in selecting work for them.—Alice Campbell Klein and Grant Thorburn, M.D., New York Tuberculosis and Health Association, 1928.

### Grading the Work Capacity of Tuberculous Patients

Godias J. Drolet, in co-operation with the Committee on After-Care and Social Re-establishment of the National Tuberculosis Association, has proposed a classification of the work capacity of tuberculosis patients, based on the condition and stage of the disease, previous work, history, working conditions and other factors, all of which have been carefully defined.



Print Shop at Potts Memorial Hospital

This sheet is published in the print shop of Potts Memorial Hospital, Livingston, New York, an institution estab-

Definitions and classification are printed on a card convenient for reference. Copies may be obtained from the state tuberculosis association or the National Tuberculosis Association.

lished for the purpose of providing a "hardening period" for patients who have been discharged from tuberculosis sanatoria as arrested cases. The purpose is not to give vocational training but merely to re-establish the working capacity of favorable cases. Gardening, poultry raising, landscaping and a commercial print shop provides the chief means of employment. The workers are under competent medical supervision and the amount of work which they are to do is each day carefully charted on an hourly basis.

—R—

### Medical and Pharmaceutical Co-operation

Perhaps one of the outstanding reasons for the progress in the scientific development of new products has been the spirit of co-operation which has existed between the medical profession and the pharmaceutical industry.

By this close co-operation medical science has contributed to pharmaceutical progress and the manufacturing pharmacists of the country in turn have made a definite contribution toward the development of new medicinal products.

On Wednesday, December 5, the officials and members of the medical, pharmaceutical and allied professions of Lafayette, Indiana, were addressed by Dr. Charles E. Vanderkleed, chairman of the contact committee, of the American Pharmaceutical Manufacturers' Association.

The subject of Dr. Vanderkleed's address was "Improvement in the Quality of American Drug Products due to Co-operation in the Industry." It is interesting to see the representatives of the several allied professions making arrangements for a periodical study of mutual interests of professional nature with a view to increasing mutual usefulness.

It is only through medical and pharmaceutical co-operation that the greatest advances can be made in conquering disease and improving the health of the American people.

—R—

Doctor to small boy: Sit down, sonny, you have shown goor manners long enough.

Small boy: It isn't good manners, doctor, it's a boil.

# THE JOURNAL

of the

## Kansas Medical Society

**W. E. McVEY, M. D. - - Editor**

ASSOCIATE EDITORS—C. W. REYNOLDS, L. B. SPAKE, P. S. MITCHELL, O. P. DAVIS, J. T. AXTELL, C. S. EDGERTON, C. C. STILLMAN, ALFRED O'DONNELL, C. S. KENNEY, I. B. PARKER, C. H. EWING, W. F. FEE.

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### BASIC SCIENCE ACTS

It has been found advisable to make a few changes in the proposed Basic Science bill before it is introduced. How many changes will be made by the legislature is a matter of conjecture.

At a meeting of the Council and Bureau Board, held in Topeka, December 18, it was decided to amend the section of the bill providing for the composition of the Basic Science Examining Board. As this section is now amended it provides that the board shall consist of three educators from the State educational institutions who are specially qualified in the subjects specified in the act and who are to be appointed by the Governor.

### IN FIVE STATES

Basic science acts are now in force in Connecticut, Minnesota, Nebraska, Washington, Wisconsin. The board in Connecticut is composed of three members, none of whom can have a degree in any of the healing arts or be connected with any hospital.

The board in Minnesota is composed of five members, two full time paid profes-

sors not actively engaged in practice of healing, appointed from the University of Minnesota, one M.D., one D.O. and one D.C.

In Nebraska, the Department of Public Health appoints a board of five members.

The board in Washington consists of five members appointed by the governor from the faculty of the University of Washington, Washington State College.

In Wisconsin the board is composed of three lay educators, none of whom shall be on the faculty of any department teaching methods of treating the sick, appointed by the governor.

There is considerable variation in the subjects included under the term basic sciences in these states. In the Connecticut law, anatomy, physiology, hygiene, pathology, and diagnosis are specified. In the Minnesota law, anatomy, physiology, pathology, bacteriology, hygiene, and after 1931 chemistry, are specified. In Nebraska all the subjects included by our bill are specified except diagnosis. In the Washington law neither bacteriology or diagnosis is specified. The Wisconsin law specifies only anatomy, diagnosis, pathology and physiology.

The laws in these states differ also in the matter of exceptions. In Connecticut there are no exceptions. The law in Minnesota does not apply to nurses, midwives, dentists, optometrists, chiropractors, barbers, cosmeticians, christian scientists, nor to treatment exclusively by mental or spiritual means.

The law in Nebraska does not apply to optometrists, dentists, nurses, midwives, nor to persons practicing healing arts at time of act, nor to practice of religious tenets where no drugs are prescribed.

The Washington law makes exception only to practice of religion or treatment by prayer.



The Wisconsin law makes an exception of the practice of christian science or treatment by mental or spiritual means.

The fee for the basic science examination in Connecticut is \$5.00, in Nebraska, Washington and Wisconsin it is \$10.00 and in Minnesota it is \$15.00.

The provision for reciprocity in Connecticut specifies that the board may issue a certificate to (1) any person licensed to practice any branch in another state or District of Columbia, (2) one having certificate from National Board of Examiners. Any person in active practice in another state for five years need not obtain a certificate. The laws in Minnesota and Nebraska provide that the board will issue a certificate of registration in the basic sciences without examination to one who passed an examination in basic sciences or by a board of another state if the standards are determined by this board to be as high as this state, and provided such other state shall accord like privileges to Minnesota (Nebraska). Washington has no reciprocity provision. The Wisconsin law provides that the board may issue a certificate to one who presents proof of having passed an examination in the basic sciences by a legal board of another state whose standards are as high as those of Wisconsin.

The proposed law in Kansas makes the following provision:

“The state board of examiners in the basic sciences may in its discretion waive the examination required by section 7, when proof satisfactory to the board is submitted, showing that the applicant has passed the examination in the basic sciences before a board of examiners in the basic sciences or a board authorized to issue licenses to practice the healing art, in another state, when the requirements of that state are, in the opinion of the board, not less than those provided by this act. The provisions of this sec-

tion shall apply only to examinations conducted by the boards or officers of state that grant like exemptions from examinations in the basic sciences to persons granted certificates by the board of this state.”

#### ENFORCEMENT AND EFFICIENCY

There has been very little published concerning the enforcement and the efficiency of the basic science laws in the five states in which it has been adopted. There has been more or less criticism offered but this seems to have been entirely by men from states that do not have a basic science law and in which they feel that it is not needed. The subject seems to have been pretty thoroughly discussed at the Annual Congress on Medical Education, Medical Licensure and Hospitals in Chicago, February 8, 1928. In the report of this discussion we find some comments by men more or less identified with the passage of the basic science law and its subsequent administration in four of the states most concerned.

In the course of his remarks, Dr. Rodecker, President of the Wisconsin Board of Medical Examiners, said: “In Wisconsin, the chiropractors have their own board. We have an osteopath who is a member of the state board of medical examiners. We are not bothered with other cults and healers.

“As the basic science board ignores all differences of opinion among practitioners as to the methods of diagnosis and treatment, a certificate from this board determines the fundamental basis of all who would practice the healing art. Such candidates as these that are determined fit and no others are permitted to appear before professional examining boards. The other various examining boards still retain their original powers of determining the fitness of a candidate to prac-



tice the particular method professed by subjects laid down by the board.

"In Wisconsin, since June, 1925, but one new member of the cult has entered the state. This was reported by Dr. Evans in his paper at the meeting last year.

"As our board was one of the first pioneers in the field of basic science, we, or no fair minded person, could expect perfection in its infant exemplification. We can see the necessity for further improvement of the law, which we expect to amend after the legislative committee meets next June. One or more subjects will be added, and probably another examiner will be added to the board."

From a tabulated report submitted by Dr. Rodecker it appears that during 1927 there were 106 applicants examined by the basic science board; of these 99 were medically trained and 7 non-medically trained. Of those examined seven failed, all non-medically trained.

In this discussion Dr. Lehnhoff of Lincoln, Nebraska, said:

"We have a basic science law in Nebraska. I recognize that it is weak enough. We are going to have a better law in Nebraska. Dr. Rypins says we have to recognize a few facts. One fact for the state of Nebraska is that it has a multiplicity of boards. Our chiropractors have their own board and the osteopaths have theirs. One of the objects of the basic science law in Nebraska was to raise the standard of the healing art in general. Of course, that means to cut out some of the osteopaths and chiropractors and to make the chiropractor, if he must exist, a better practitioner and I believe we have done that.

"I am satisfied that an applicant who had not passed the basic science board would have a difficult time in practicing anything of the healing arts in Nebraska."

Dr. Boyer, Duluth, Minnesota, said: "I was a member of the legislative committee that was instrumental in passing the basic science law in Minnesota, and I am a member of the basic science board of Minnesota. The sole purpose in passing the basic science law was to raise the standard of those who wished to treat the sick in Minnesota. You could not, and never did, do this with the boards of medical examiners as their influence was confined to the regulars only. They raised the standards of the medical schools by way of the leverage they afforded the Council on Medical Education and Hospitals. The basic science boards afford assurance to the public that those who profess to treat disease shall have a fundamental knowledge of normal and pathologic structure and function. In Minnesota no applicant for examination may come before the basic science board who has not a high school education or its equivalent. Our experience thus far is that we have had very few applicants from the cults for basic science examinations. Our theory is that he who has a modern high school education will not only be able to grasp the significance of the basic medical sciences but will know enough to choose the regular medical course or none at all.

"In Minnesota our present law seems best adapted to our needs. It is, as is nearly all legislation, a compromise law. It recognizes the legalized schools of healing other than regular medicine and also recognizes the demand of the public. We cannot omit consideration of the public from any of our legislative proposals. The people have ideas of their own regarding medical legislation and as to whom they want to doctor them. The various legalized cults always seek gradually to raise their standards of education, seemingly coming to realize, as they work in the field, their great handicap of insufficient knowledge. This inevit-

ably leads them along the trail followed by the late homeopath, until they too are lost and swallowed up in the realm of scientific truth. Our future efforts in Minnesota will be directed toward preventing any legislation legalizing any new or additional cults wishing to establish themselves within our borders. We believe we are in an advantageous position in this respect because of our basic science law and of the composite nature of our board."

Dr. Hyde, Greenwich, Connecticut, said: "In Connecticut we have a much better basic science law than has been discussed here today. It has been going for a year now with great success, and it is a protection to the public. The secretary of the commissioner of health told me last week that in the year and half since it has been in operation he has had no question in issuing licenses to applicants. The quality has distinctly improved. In the same period, our own board failures have decreased by 75 per cent. This law, for us, I am sure is a marked advance."

#### WHERE NEEDED

It seemed to be the consensus of opinion among those who discussed the subject at this meeting that in those states having multiple examining boards a basic science act was desirable, but that states having a composite board had no need for a basic science act and were better off without it. Perhaps that is so, but it must always be remembered that the existence of a composite board does not prevent a legislature creating additional boards. We had that experience in Kansas, other states have more recently had the same experience.

When our medical practice act was passed and a composite board appointed, it was recognized by the legislature as a concession to, and for the benefit of, the medical profession. By that act the state

conceded to the medical schools represented on the board, the right to determine who should practice medicine in the state. When later the osteopathic board was created, that act was recognized as a concession to, and for the benefit of, the osteopaths and it conceded to them the right to determine who should practice osteopathy in this state. The passage of the law creating the chiropractic board was recognized by the legislature as a concession to, and for the benefit of, chiropractors and to them was conceded the right to determine who should practice chiropractic in the state.

The doctors of medicine having secured certain concessions for their own benefit, they had no reasons to object, at least from a legislator's point of view, to similar concessions and benefits being given to other schools, sects or cults of practice of the healing art; such as have already been granted or will be granted.

In actuality the welfare of the people of the state was not a consideration in the enactment of either of these laws. The boards which administer these laws are called "state boards," but they are such in name only, for, though appointed by the governor, they are chosen from the various groups most concerned in and most benefited by the laws they administer.

In enacting a law such as the one now proposed the state does not repudiate the concessions already granted, but in recognition of the best interests of its citizens is putting a check on privileges granted these various board by establishing a minimum standard of qualifications for all those to whom these boards may grant licenses; and it is creating a board to represent the state—not either or all of the groups of practitioners of the healing art. For that reason it is eminently important that this board should be composed of men who are not identified with any such groups.



## OUR ADVERTISERS

Most of us feel that reciprocity in business is not only justifiable but good policy. We buy our goods from the merchants who buy our professional services. This policy might be extended by the members of the Kansas Medical Society with considerable benefit to the Journal and the Society. It is perfectly safe for us to patronize those who advertise in the Journal for according to a policy adopted by the Council fifteen years ago, only reputable and dependable business firms are permitted to use our advertising space. No drugs are advertised that have not been approved by the council of the American Medical Association. The market is so well represented by our advertisers that you should be able to find anything you want among the lines they handle.

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Perhaps you want a consultant. Then just look over the professional cards in the front section and you will find many excellent men to choose from.

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B

### Council Meeting

The annual meeting of the Council was held in Topeka, December 18, 1928, in Room 202, Central Building.

The meeting was called to order by the President, Dr. John A. Dillon, at 10:30 a. m. Others present were Drs. Gray, Davis, O'Donnell, Spake, Axtell, Parker, Ewing, Mitchell, Fee, Reynolds, Barney and Hassig.

It was agreed to hold the Seventy-first Annual Meeting in Salina, Tuesday, Wednesday and Thursday, May 7, 8 and 9, 1929.

The Secretary was instructed to secure at least five distinguished guests to appear on the program, and the names of several speakers were suggested.

It was decided to hold the meeting of the Council on the first day at the noon hour and also a meeting of the county



secretaries at the same time, and a definite program be arranged. It was also decided that a complimentary luncheon would be served at this time. The first meeting of the House of Delegates will be held at 4 p. m. the first day of the meeting, and at night a public meeting.

The matter of re-instatement and new members of Mitchell County Medical Society was brought to the attention of the Council by the Secretary and he was instructed to return the check to Dr. M. M. Madtson, Secretary of Mitchell County Medical Society and refer the matter to Dr. C. C. Stillman, councillor for the Seventh district, to thoroughly investigate the legality of the meeting and the ethical standing of the applicants and report to the Council at its next meeting in Salina.

Dr. Gray, Treasurer, made a short report of our financial condition showing a bank balance of \$274.00, and the Council recommended that Dr. Gray use his own judgment in disposing of the C. D.'s.

Dr. Davis, Chairman of the Defense Board, reported much activity in his department with unusually favorable court results.

Dr. McVey made the following financial report for the Journal:

#### THE JOURNAL OF THE KANSAS MEDICAL SOCIETY

Receipts and Disbursements by the Editor, May 1, 1928, to December 15, 1928.

##### RECEIVED

Advertising .....	\$3,195.35	
Sales and Subscriptions ....	47.50	
Other Sources .....	115.00	
Kansas Medical Society .....	2,000.00	
Bills Due and Payable.....	217.98	\$5,575.63

##### EXPENDED

Printing Journal .....	\$1,672.00	
Stock and Stationery .....	507.95	
Salaries and Wages .....	1,663.33	
Postage. . . . .	110.87	
Furniture and Fixtures .....	39.00	
Electrotypes. . . . .	167.66	
Office Rent .....	200.00	
Miscellaneous .....	15.77	\$4,376.58
Balance. . . . .		\$1,199.05
Received, January 1, 1928, to December 15, 1928 .....		\$7,322.48
Expended, January 1, 1928, to December 15, 1928 .....		6,624.51
Balance. . . . .		\$ 697.97
Topeka, Kansas, December 18, 1928.		
Approved and filed.		

Following his report Dr. McVey was unanimously elected Editor of the Journal for another year.

The Secretary presented an expense account since May 10 for \$610.27 which was allowed.

This meeting was adjourned and a joint meeting with the members of the Board of the Bureau of Public Relations was held in the same room and in addition to the members of the Council, Dr. Earle G. Brown and Dr. W. S. Lindsay were present, which constituted a full attendance of the Board.

Dr. McVey, Executive Secretary, gave the following financial report for the Bureau of Public Relations:

#### BUREAU OF PUBLIC RELATIONS OF THE KANSAS MEDICAL SOCIETY

May 1, 1928, to December 1, 1928.

##### RECEIVED

Deficit, May 1, 1928.....	\$ 100.00	
Received May to December..	1,600.00	\$1,500.00

##### EXPENDED

Postage. . . . .	\$ 255.11	
Wages. . . . .	906.75	
Stationery and Printing ....	269.80	
Miscellaneous. . . . .	21.07	\$1,452.73
Balance on Hand, December 1.....	\$ 47.27	
Topeka, Kansas, December 18, 1928.		

Dr. McVey gave a full and interesting report of the activities of the Bureau since May with special reference to the Basic Science Act. After some discussion it was decided to change the personnel of the proposed Basic Science Board from five to three members and the clause to read, "that the Board shall consist of three educators from state educational institutions who are especially qualified in the subjects included in this act, and the members to be appointed by the Governor."

It was agreed by all to employ Judge J. D. M. Hamilton, attorney for the Defense Board, to help secure the passage of this act, expenses of which are to be approved by the Executive Committee of the Council.

Meeting adjourned at 4:15 p. m.

J. F. HASSIG, Secretary.

—R—

#### Tuberculosis Clinics for Doctors

The present policy of the Kansas Tuberculosis Association is to request that every patient who comes to a clinic be scheduled at a time when the family physician can also be present. This is possible if the local doctor will join in planning for it. The clinicians of the Tu-

berculosis Association are convinced that in this way do the clinics give the best value to patient, physician and community. The plan is for the nurse working up the clinic to call personally upon every doctor in the community, a few days prior to the clinic, follow out the doctor's instructions as to calling on patients who should visit the clinic and make out a working schedule for the clinic hours. Patients having no family doctor may be represented by the County Health Officer.

The reasons for this new plan are multiple. The visiting clinician profits greatly by the history related by the family physician. Obscure points are brought to light. Much of value that might be contributed by the clinician cannot be set down in a written report though readily pointed out in a personal consultation. Recommendations can be discussed pro and con. The local doctor keeps the case well in his own hands and the possibility of conflicting opinions is avoided.

Doctor F. L. Loveland of Topeka is Chairman of the Kansas Tuberculosis Association Committee on Clinics. His experience of eight years has convinced him that the only practical way to hold a clinic is to make it a "doctors clinic." Lately such clinics have been held in Rice, Greenwood, Washington, Franklin, Coffey, Osage, Barton, Dickinson, Riley and Montgomery counties.

The doctors now serving as clinicians for the Kansas Tuberculosis Association are C. S. Kenney, M.D., Norton; S. L. Cox, M.D., Anthony; T. S. Finney, M.D., Wichita; S. H. Snider, M.D., Kansas City, Missouri; F. A. Trump, M.D., Ottawa; and F. L. Loveland, M.D., Topeka.

No clinics are scheduled without the co-operation of the County Medical Society. When it is practicable and desired by the Medical Society arrangements may be made to hold the Medical Society meeting and clinic on the same date, thus giving the Medical Society a "tuberculosis day."

The Kansas Tuberculosis Association can hold only a limited number of tuberculosis clinics each year and will now be glad to receive invitations from County Medical Societies for clinics to go on the

1929 schedule. All expense is borne by the Tuberculosis Association.—Charles H. Lerrigo, M.D., Medical Director, Kansas Tuberculosis Association.

—R—

## SOCIETIES

### CLAY COUNTY MEDICAL SOCIETY

The annual meeting of the Clay County Medical Society was held at the Clay Center Country Club Wednesday evening, December 19, 1928. The first number on the program was an excellent banquet in which all the members present and the visitors took part. After dinner the regular annual business meeting was held as follows: Minutes of the last meeting read and approved. The treasurer's report was read and approved and placed on file. The application of Dr. Robert Diver for membership in the Society was received and as Dr. Diver was already a member of the Cloud County Society he was unanimously elected to membership without being referred to the board of censors. The following officers were elected for the ensuing year: President, Dr. C. C. Stillman; Vice President, Dr. D. O. Jackson; Secretary, Dr. X. Olsen; Treasurer, Dr. F. R. Croson. Dr. E. N. Martin was elected on the board of censors for the term of 3 years, other members being Dr. Carr, 2 years, and Dr. X. Olsen, 1 year. On motion of Dr. McIlvain, the Society voted to have a program committee consisting of 10 members, each member to furnish a program for one month. The Society voted to cut their dues to \$10 for the County and State Society.

The following was the program for the evening: "Headaches," Dr. B. Landis Elliott; "Contagious Diseases," Dr. Damon Walthall, both of Kansas City, Mo. The program was an excellent one and was enjoyed by everyone present.

X. OLSEN, Secretary.

### STAFFORD SOCIETY

Society met Thursday evening, December 13, in St. John with the following members present: F. W. Tretbar, J. J. Tretbar, T. W. Scott, Stafford; L. E. Mock, R. E. Stivison, J. T. Scott, St. John. Dr. Kirby, dentist, was a guest. The following officers were elected for



1929: M. M. Hart, president; J. J. Tretbar, vice president; J. T. Scott, secretary-treasurer. Previous to the literary program the members took dinner at the Tea Room. Dr. F. W. Tretbar, president, delivered the annual address and emphasized the importance of medical organization and co-operation. He thanked the members for their courtesy and aid during the year closing and expressed the hope that next year would show an even better per centage of attendance. He spoke enthusiastically of our public medical meetings and felt that they were the method of successful propaganda and should be tried out in every county having an active society. In conclusion he said that the physicians of Kansas can get whatever legislation they desire by standing and working together. The meeting was instructive and entertaining as the following program indicates:

I. President's Address—"Our Duty to Ourselves and to Each Other," F. W. Tretbar.

II. Paper—"Small Things," J. T. Scott.

III. Stereopticon Pictures—"As Others See Us."

There will be food for thought,

Also food for feed,

Both of which,

We all stand in need;

Don't eat at home,

Come here for lunch,

Laugh and grow fat

With the rest of the bunch.

Among the stereopticon pictures were those of Wm. Harvey, Metchnikoff, Holmes, Pasteur, Roentgen, Osler, Jacoby, Ehrlich, Virchow, Mayo and Sargous. A short biographical history of each was read.

Two public meetings have been held during the year, one in Stafford, addressed by Dr. C. B. Francisco of Kansas City, and one in St. John, addressed by Dr. M. C. Jenkins of Pratt. Every member is securing names on the petition to the next legislature asking for a basic science act.

J. T. SCOTT, Secretary.

#### ELK COUNTY SOCIETY

The Elk County Medical Society met at the Sexton Hotel, Longton, December

12 at six o'clock dinner, after which the fourth quarterly meeting was held.

Dr. F. K. Day presented a clinical case on Fracture of the Tibia. Dr. R. C. Harner, gave a paper and case report on Aortic Aneurism.

Officers were elected for 1929 as follows:

President—Dr. R. C. Hutchison, Elk Falls; Vice President—Dr. F. K. Day, Longton; Secretary-Treasurer—Dr. F. L. DePew, Howard. Delegates to State Society—Dr. R. C. Harner, Howard.

The next meeting will be at Howard, March 2, 1929. The Elk County Medical Society will meet quarterly during the following year.

F. L. DEPEW, M.D., Sec-Treas.

#### SHAWNEE COUNTY SOCIETY

At the meeting of the Shawnee County Medical Society, held on December 3, the following officers were elected for the year 1929:

James E. Stewart, M.D., President; Arthur D. Gray, M.D., Vice President; Milton B. Miller, M.D., Treasurer; Earle G. Brown, M.D., Secretary; G. H. Litsinger, Member, Board of Censors.

Dr. John A. Wolfer, associate professor of surgery, Northwestern University, Chicago, Illinois, delivered two papers at this meeting. The first on "Chronic Duodenal Obstruction" preceding the dinner, which was attended by approximately one hundred members and their guests. Following the dinner Dr. Wolfer delivered an address on the "Acute Abdomen."

EARLE G. BROWN, M.D., Secretary.

#### BOURBON COUNTY SOCIETY

On December 17, 1928, the Bourbon County Medical Society met at the Goodlander Hotel for the annual banquet which consisted of turkey and all the trimmings that go to make a delicious dinner. Election of officers resulted as follows:

Dr. W. S. Gooch, President; Dr. E. D. Tanquary, Vice President; Dr. R. Y. Strohm, Secretary-Treasurer; Dr. J. R. Newman, J. D. Hunter and Dr. J. J. Cavanaugh, censors; Dr. C. L. Mosley, delegate to state meeting, Dr. R. O. Crume, alternate.



We were favored with three visitors, Dr. Parrish of Mulberry, Kansas; Dr. Harry Gilkey, and Dr. C. C. Conover of Kansas City, Missouri, Dr. Conover being an honorary member of our Society. It was a rare treat to listen to Dr. Conover's talk on Kidney Infections, and Dr. Harry Gilkey recounted some very unusual conditions of childhood accompanied by screen illustrations.

W. S. GOOCH, Secretary.

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### BOOKS

The Diabetic Life, its control by diet and insulin, by R. D. Lawrence, M.A., M.D., M.R.C.P., London, chemical pathologist and lecturer in chemical pathology, King's College Hospital. Fourth edition. Published by P. Blakiston's Son & Company, Philadelphia.

In this the fourth edition the author has made some additional suggestions as to the treatment of coma and intercurrent diseases. The most important change, however, is in the food tables. Recent analyses show that many carbohydrate foods contain less starch and sugar than was formerly supposed. All the carbohydrate foods have now been analyzed and the food tables have been rearranged on the basis of the newer figures.

Diseases of the Ear, Nose and Throat, Medical and Surgical, by Wendell Christopher Phillips, M.D., formerly professor of otology, New York Post Graduate Medical School, etc. Seventh edition revised. Published by F. A. Davis Company, Philadelphia. Price, \$9.00.

This work appears to have been very thoroughly revised. The descriptions of many of the older operations or such of them as are now obsolete have been omitted. Careful attention has been given to the newer methods of treatment, the latest operative procedures and particularly to the modern methods and aids in diagnosis. A considerable number of new illustrations have been added. Some new material has also been added.

Partnerships, Combinations and Antagonisms in Disease by Edward C. B. Ibotson, M.D., London. Published by F. A. Davis Company, Philadelphia, price \$3.50.

This is a general discussion of general disease relationships in which immunity, heredity, age, sex and environment are considered in their relative importance. Considerable attention is given to diatheses which he says are mostly de-

fects or abnormalities in animal chemistry and are all hereditary and familial. There are many valuable suggestions in this book and it is well worth reading, for one at least gets a new line of thought from it.

The Medical Clinics of North America. (Issued serially, one number every other month.) Volume 12, Number 3. (New York number, November, 1928). Octavo of 334 pages with 64 illustrations. Per clinic year, July, 1928, to May, 1929. Paper, \$12.00; cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1928.

The differentiation and treatment of the commoner forms of nephritis by Foster is the first contribution to this number of the clinics. The gall bladder function as affected by the operation of gastro-enterostomy is discussed by Holland. Bela Schick has an article on tuberculosis in childhood. Blumgarten described some unusual forms of hypothyroidism. Chest pain is discussed by Guion and Meara. Archer has an article on chronic arthritis. The clinic of Baldwin and also that of Bullova and that of Rosenbluth deal with the treatment of pneumonia. Held and Goldbloom discuss the clinical interpretation of hematologic diseases. Stillman has an article on agranulocytosis. Frankfeldt discusses diagnostic methods in diseases of the rectum and colon. There are several other very interesting articles in this number.

Thrombo-Angiitis Obliterans—Clinical, Physiologic and Pathologic Studies. By George E. Brown, M.D., and Edgar V. Allen, M.D., Division of Medicine, Mayo Clinic, Collaborating in Pathology with Howard R. Mahorner, M.D., Fellow in Surgery, The Mayo Foundation. 12mo of 219 pages with 62 illustrations. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, \$3.00 net.

This work is based on the study of 300 cases of this disease that have been seen at the Mayo Clinic during the five years from 1922 to 1927, and something like fifty autopsies. There is either an increase in the incidence of thrombo-angiitis obliterans or it is more readily and frequently recognized. It is important to recognize its early stages since it is in many cases possible to at least avoid amputation by careful attention and treatment. The etiologic agent of the disease is still unknown.

A Textbook of Pathology. By William G. MacCallum, M.D., professor of pathology and bacteriology, Johns Hopkins University. Fourth edition, thoroughly revised. Octavo volume of 1,177 pages

with 606 original illustrations. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, \$10.00 net.

Since the former edition of this book appeared much has been added to our knowledge of a number of medical subjects, in nutritional diseases, in diabetes and others. The author has made it a point to bring his work up to date and in doing so has made such changes and additions to the text as were necessary.

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#### **Kansas City Southwest Clinical Society**

Dr. Wm. H. G. Logan on January 22 will give in the morning a clinic on oral surgery at the Kansas City General Hospital and in the evening will give an illustrated address on "Cleft Palate and Cleft Lip" at the Medical Arts Building, thirty-fourth and Broadway, Kansas City, Missouri.

Dr. Logan is dean of the Chicago College of Dental Surgery, the dental department of Loyola University. Dr. Logan is also past president of the American Dental Association, the International Dental Congress and the American Association of Dental Schools; during the war he was in charge of the entire dental department of the American Army with headquarters at Washington.

To the above meetings the entire dental and medical professions are cordially invited.

The appearances of Dr. Logan in Kansas City are sponsored by the Kansas City Southwest Clinical Society which is composed of the Jackson and Wyandotte County societies; and these appearances are also sponsored by the Kansas City Eye, Ear, Nose and Throat Society and the entire dental and medical professions throughout the southwest territory adjacent to Kansas City.

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#### **United States Public Health Service Inspection of Vaccines and Serums Important**

The United States Public Health Service, in connection with its inspection of biologic products as required by law, performs a service of inestimable value to the general public. Before a biologic product, such as a serum, toxin, vaccine or antitoxin, may be sold in the United States in interstate or international commerce a license must be obtained from

the Public Health Service. The granting of a license means that inspection of the establishment concerned and laboratory examinations of samples of its products are made regularly to insure the observance of safe methods of manufacture, to ascertain freedom from the contamination and to determine the purity or safety, or both, of the various products, and the potency in cases where standards exist. From time to time lists of the manufacturing firms which produce such products that are licensed are published, together with the names of the products for which they are licensed. Such a list recently issued by the Public Health Service emphasizes the importance of this work.

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#### **Synergism of Magnesium Sulphate and Morphine**

The synergism of magnesium sulphate and morphine has been definitely proved clinically by James T. Gwathmey, New York (J.A.M.A., Dec. 8, 1928), in both obstetrics and surgery, the value of morphine having been increased from 250 to 500 per cent. Magnesium sulphate is put up in ampules alone, with morphine, or with morphine and 2.5 per cent of procaine. If the practitioner prefers, he can sterilize and make his own magnesium sulphate according to the formula of Auer, as follows: "Weigh out 250 Gm. of magnesium sulphate and add enough water to make 1,000 cc., thus making a 25 per cent solution." A chemically pure magnesium sulphate must be used. There is no more danger in administering morphine in 2 cc. of a 25 per cent solution, as far as life is concerned, than there is in administering the morphine in 2 cc. of water. Experimentally, this synergism is life saving with laboratory animals when ether vapor is used as the anesthetic. Clinically, it is also life saving, decreasing both morbidity and mortality. It should be used with all methods of anesthesia and analgesia. Carefully kept records of synergistic obstetric analgesia in nearly 20,000 cases show that it is far superior to "twilight sleep" in every way. The synergism of magnesium chloride with amidopyrine, sodium salicylate and acetylsalicylic acid has been proved in the laboratory by Barbour and



Winter, and has an indirect bearing on the subject under discussion. The synergism of magnesium sulphate and ether has been proved for the albino rat, rabbit, dog and man, and is of practical importance in relation to the synergism of magnesium sulphate and morphine. The probability is that magnesium sulphate synergizes with almost any drug with which it is compatible, by prolonging its action, deepening its effect, reducing fever, or acting in other ways.

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#### **Air in Coronary Arteries**

Experience with some forms of death of human beings, and with occurrences in which the approach of death has been close and the results of experimental air embolism of the pulmonary veins and systemic arteries in guinea-pigs all indicate to G. J. Rukstinat and E. R. LeCount, Chicago (J.A.M.A., Dec. 8, 1928), that postmortem examinations of human bodies should now and then be done under water or with other appropriate measures for demonstrating the presence or absence of air in the systemic arteries, and especially in those which supply the heart muscle. In conditions with which air embolism is possible, and particularly embolism of the pulmonary veins, the patient should be promptly examined for peculiar churning murmurs of the heart whenever unexpected syncope is encountered and such examinations are feasible.

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#### **Whooping Cough**

Although whooping cough causes more deaths than do most of the other communicable diseases of childhood, it differs from them in that it is fatal only for the very young and that the immediate cause of death is nearly always a secondary infection. In the forty-three registration states it caused 9,058 deaths in 1926. This is 908 more than the deaths from diphtheria, 1,368 more than the deaths from measles, and 6,463 more than the deaths from scarlet fever. Of the 42,655 deaths attributed to whooping cough by the United States Public Health Service between 1918 and 1924, more than 54 per cent were in children under 1 year of age, and about 25 per cent were in children less than 2 years old. Most of these deaths were due to secondary

bronchopneumonia, enteritis or convulsions. Many reports on the value of pertussis vaccine as a therapeutic agent are contradictory and of little scientific value because they usually lack proper control material. Louis W. Sauer and Leonora Hambrecht, Evanston, Ill. (J.A.M.A., Dec. 15, 1928), used a freshly prepared vaccine in 100 cases as early as possible, giving three subcutaneous inoculations of fresh vaccine. In none of the 100 children was the disease prevented. Quite a number of patients were given the vaccine very early—in fact, before the blood counts or coughs were typical. Five of six infants exposed to older patients in their households received three inoculations during the catarrhal or early paroxysmal stage, but all developed severe pertussis. Four nonexposed, unvaccinated, susceptible infants, in families with exposed susceptible children, were isolated from the latter before the catarrhal stage. None of these infants developed pertussis. There is no natural immunity to pertussis—children presumably susceptible and definitely exposed, who do not cough in typical paroxysms, may have the disease in an atypical form or they may have had it earlier in life and are immune. Observations were made on the severity of the clinical course in about 100 infants and children with pertussis in six institutions. None had received vaccine injections.

The average age was below 3 years. In one institution with more than fifty infants, all contracted the disease. Most of the patients were anemic and underweight, and many had florid rickets. More than half contracted enteritis, and this was followed by bronchopneumonia in most of the fatal cases. The mortality exceeded 30 per cent. No deaths occurred among the forty infants and children in the five other institutions. In a primitive nursery ten artificially fed, rachitic infants contracted whooping cough in midwinter; one developed bronchopneumonia and convulsions, but recovery was complete within a few weeks. All susceptible infants and children in a small, colored day nursery contracted the disease without complications. In another institution housing several hundred orphans of school age, about ten of the



younger children developed whooping cough simultaneously. They were isolated for about a month. None of these nor any of the older children were given vaccine. New cases did not develop in spite of ample exposure. If the institution with the high mortality from enteritis is excluded, the clinical course in the remaining fifty institutional patients (including twenty-five infants under 2 years) compares very favorably with the course in the 100 children who received three injections of vaccine. About 30 per cent of both groups had the disease in mild form; in about 50 per cent it was of average severity and duration, and in the remaining 20 per cent, complications of one kind or another occurred. Such variation in the severity of the disease in the vaccinated and the unvaccinated makes it difficult to evaluate vaccine therapy. The simultaneous occurrence of mild and severe whooping cough in families who received the vaccine, and in the institutions in which no vaccine was given, indicates that the course is more dependent on the immunity response of the individual and his ability to resist secondary infections than on the virulence of the strain or the influence of vaccine. Since vaccine is of doubtful value, the earliest possible diagnosis followed by the strictest quarantine is the chief means of combating this malady, so fatal for the young child.

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#### **End-Results of Extra-Articular Fixation of Tuberculosis Hip in Children**

F. C. Kidner, Detroit (J.A.M.A., Dec. 15, 1928), says that assuming that tuberculosis of the hip does not heal without fixation, operative fixation should be done as early as possible, as regards both the age of the patient and the duration of the disease. Extra-articular operation provides a means for early fixation. The juxta-articular methods of Kappis and Hibbs, and the free graft described by Kidner provide a better means than the para-articular method of Albee, Calve and others. It is safe to operate in the presence of active tuberculous disease, even with abscess, if there is no open sinus. Even though fixation does not occur promptly after the operation, the graft provides an internal splint which relieves symptoms and prevents spread

of the disease. The operation in no way interferes with growth. Shortening following the operation is only that present before the operation. If the growth center has been destroyed before operation, relative shortening will increase after operation. If not, the limb will keep up with its mate. Flexion of from 20 to 40 degrees in midposition is the position of choice for these fixed hips. The earlier the operation is done in proved tuberculosis of the hip, the less will be the shortening and the shorter the period of invalidism.

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#### **Blastomycosis**

A pathologic and bacteriologic study of blastomycosis was made by I. D. Michelson, Memphis, Tenn. (J.A.M.A., Dec. 15, 1928). He concludes that the reaction of the tissues in systemic blastomycosis is an allergic one. Unfavorable environmental conditions produced by drugs, dyes, bile and incubator temperature cause the organism to revert to the oidial or yeast stage, depending on the concentration of the deleterious agent and varying with the individual strain. The yeast-like growth is the resistant form of the organism; the aerial growth is the saprophytic form. Endosporulation, while it occurs both in the body and in culture, is of a minor importance in the life of *Blastomyces*. An endogenous black pigment is formed on suitable carbohydrates and in one strain an exogenous pigment has been observed.

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#### **Effective Range of Iodine Dosage in Exophthalmic Goiter: Preliminary Report**

An attempt has been made by Allen G. Brailey and Phebe K. Thompson, Boston (J.A.M.A., Dec. 1, 1928), to determine the effective range of iodine dosage in exophthalmic goiter. In twelve out of thirteen patients at rest in bed in a hospital, as great a reduction in basal metabolism was obtained with 1 drop of compound solution of iodine (about 6 mg. of iodine) daily as with much larger doses. In eight out of twelve patients more recently studied under the same conditions, half a drop of compound solution of iodine (about 3 mg. of iodine) daily was as effective as were larger doses. Three patients showed no response to any dose,

and one showed a slightly lower metabolic level during the administration of 30 drops daily. The minimum dose that will produce a maximum reduction in basal metabolic rate has not yet been definitely determined. It appears in most cases, however, to be between about one-fifth drop of compound solution of iodine (1.3 mg. of iodine) and about 1 drop (6.3 mg. of iodine) daily. There are observations which suggest, but do not prove conclusively, that the minimum dose is perhaps a little less when a patient is at rest in bed in a hospital than when the same patient is at home occupied with her daily routine.

—R—

### A New Medium for Gall Bladder Radiography

Tetraiodophenolphthalein in colloidal suspension is the latest development for visualization of the gall bladder. The use of this medium was described by Dr. Bernard Fantus in the J.A.M.A. of July 16, 1927.

As the result of subsequent research, colloidal tetraiodophenolphthalein is now available in a form stable toward the gastric juice and readily absorbable from the intestine. The dose containing grams of dye is given in a glass of water. Experiments covering a long period have shown that tetraiodophenolphthalein administered in this colloidal form, normally gives a distinct cholecystogram within twelve hours. It is claimed that the possibility of non-visualization is reduced to a minimum and that nausea, laxative action, or other discomforts are seldom encountered. In this new colloidal form, the chemical will be known as Chole-cysto-col and will be marketed by the Abbott Laboratories, North Chicago, Illinois.

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### Agranulocytic Angina

The report of the case made by Herbert W. Dasse, Chicago (J.A.M.A., Dec. 1, 1928), resembles very much the case of agranulocytic angina first reported by Dr. Werner Schultz in 1922, in which there was a severe infection leading to death in a few days with an abrupt onset accompanied by chills, high fever, prostration, ulcerogangrenous stomatitis, and marked sore throat. There was a

leukopenia of 5,000 with an absence of granulocytes. There was no lymphoid or splenic hyperplasia. Throat cultures gave an almost pure culture of *B. pyocyaneus*. The severe anemia with reduction of platelets and a hemorrhagic tendency were not described by Dr. Schultz. Injections of living cultures of *B. pyocyaneus* subcutaneously into guinea-pigs produced a slight reduction in the white blood count and always a relative reduction of the granulocytes from 68 per cent to 30 per cent. A local ulcer formed with a center of necrosis and a slight inflammatory border, which healed rapidly in about ten days when the blood count was about normal.

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### REPRINTS

Reprints of original articles will be furnished the authors at the following rates, if the order for same is received within fifteen days after the Journal is mailed. These prices are based on the number of pages of the Journal the article occupies:

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These reprints are standard form, with cover, each page of the Journal making 3 pages of reprint.

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### RELAXATIVES

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The chemical constituents of a man are said to be worth 98 cents. Possibly it is that price which causes some women to run after them.—Tampa Times.

\* \* \*

The doctor coughed gravely.

"I am sorry to tell you," he said, looking down at the man in bed, "that there is no doubt you are suffering from smallpox."

The patient turned on his pillow and looked up at his wife.

"Julia," he said in a faint voice, "If any of my creditors call, tell them that at last I am in a position to give them something."—Selected.

**WANTED**—Salaried Appointments for Class A physicians in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nation-wide connections enable us to give superior service. Aznoe's National Physicians' Exchange, 30 North Michigan, Chicago. Established 1896. Member The Chicago Association of Commerce.

**HAVE** a fine opening for a doctor who would like to run a drug store and practice medicine combined, as we have no doctor here at present. If interested, write me.—A. K. Ingham, Beverly, Kansas.



# THE JOURNAL

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No. 2

### The Treatment of Empyema

L. E. McFARLANE, M.D., Manhattan

Read before the Kansas Medical Society at its Annual Meeting, May 8-10, 1928, at Wichita, Kansas.

The mortality of empyema cases is still entirely too high and can be lowered only as the medical profession in general comes to know and secures for the patients the best method or methods of prevention and treatment. The problem of prevention I will not discuss here except to say that herein lies a wonderful opportunity to reduce the death rate not only of empyema but of many other diseases of childhood. If infants and children are properly cared for according to our present day knowledge, we will continue to see fewer and fewer cases of empyema and those cases we do see will be less serious and they will have fewer complications. The method of treatment we employ in this disease should depend upon the stage of the disease, the condition of the patient, the age of the patient and the infecting organism. Acute empyema most frequently develops after pneumonia. It may also develop after typhoid fever, scarlet fever, influenza, tonsillitis, general surgical operations and after traumatic injuries. When empyema is suspected stereoscopic roentgenograms should be taken. In the acute stage when the fluid is thin and the patient is very toxic, aspiration of a small amount of the fluid at a time is the only safe procedure. As the fluid becomes more purulent a catheter should be inserted and the closed drainage established. Irrigation of the cavity should be employed and the expansion of the compressed lung encouraged by the use of blowing bottles. After nature has walled off the empyema cavity the advisability of a rib resection and open drainage may be considered. It permits an earlier discharge from the hospital and may be the quickest means of getting

the patient back to productive occupation.

Chronic empyema is the result of an improperly treated acute empyema and should therefore be a rare disease. The treatment consists of one of the several types of thoracoplasty considered below:

The general condition of the patient is important because it too must be treated. Complications must be anticipated and diagnosed early. In cases where pneumonia still exists it is best to be conservative and resort to aspiration only when necessary to relieve embarrassed respiration or circulation. In extremely toxic individuals a blood transfusion may be a life saving measure. A high caloric diet, alkalies and dextrose by mouth are useful when well tolerated. The fluid intake must be kept up either by mouth, by rectum, subcutaneously or intravenously. If in spite of a good fluid intake the patient's condition is not good, intravenous glucose and insulin will often bring about a decided change.

As to the age of the patient—regardless of what method we use, our individual mortality rate decreases with the increase of age up to twelve years. Empyema in an individual under two years of age is an extremely dangerous disease. In reporting 291 cases treated at the Philadelphia hospital for contagious diseases, Dr. Alexander says, "32 per cent of the cases under three years of age died, acute cases treated with a rib resection and open drainage nearly all died, those treated with aspiration or by closed drainage nearly all survived." Nearly every surgeon writing on empyema today cautions against early open drainage especially in children.

One must take into consideration the infecting organism. Pneumococcus and Staphylococcus infection are likely to form thick pus early, the empyema cavity is more quickly walled off and the size



of the cavity is apt to be comparatively small. Streptococcus infections pour out a large amount of fluid which is slow to form thick pus, adhesions of the pleural layers are slow to form and the result is often a large empyema cavity. Therefore when fluid is aspirated the infecting organism should be determined by smear and culture. If streptococci are present early open drainage must be avoided.

Having taken into consideration the above factors and determined the presence of empyema by examination, exploratory needle and *x*-ray, aspiration may be very satisfactorily carried out in the following manner. With the patient in the sitting position and under local anaesthesia of from one-half to 1 per cent novocain and adrenalin, an aspirating needle is inserted into the cavity. A twenty-two gauge needle connected to a 10 c.c. syringe by means of a short piece of catheter makes a very satisfactory apparatus for this procedure. If we desire to empty the syringe of any fluid aspirated, we may do so, without danger of a pneumothorax, by clamping the catheter while the syringe is disconnected. If the pus is very thick, air or normal saline replacement may be used to hasten the flow of pus through the needle. The removal of fluid should be slowly carried out and not too much fluid should be withdrawn at one time. If the patient responds well to the procedure more fluid may be withdrawn a few hours or days later. By proceeding cautiously this way little harm can result and the toxic condition from this source can be kept at a minimum. It is well to inject a small amount of 1 per cent mercurochrome as the needle is withdrawn after aspiration. As the fluid becomes more purulent and the patient fails to continue to improve closed drainage should be resorted to. The introduction of the catheter can be carried out with almost no pain under local anaesthesia, however, in selected cases the synergistic anesthesia recommended for painless childbirth consisting of quinine hydrobromide, alcohol, cotton seed oil or olive oil and ether by rectum, morphine and magnesium sulphate hypodermically together with novocain locally, makes a very excellent combination. Certainly

ether inhalation anesthesia should not be used in these early acute cases. Ethylene or nitrous oxide may be used in some cases to good advantage. If considerable pus is present in the cavity when the catheter is introduced it should be slowly drawn off. This process may take twenty-four hours or more. When the cavity is empty the first irrigation should be carried out with normal saline to determine the possible existence of a bronchial fistula. If no fistula is present Dakin's solution is the ideal antiseptic for these cases. Having fastened the catheter in position by means of adhesive and connected it to the closed drainage system, irrigations are carried out every two hours during the day and every four hours at night. No definite length of time for continuing the irrigations can be given. If a complete cure is hoped for by this method, they must be continued until the capacity of the cavity is down to three ounces or less and until the aspirated material, after discontinuing the irrigations for at least twelve hours, is sterile. During all this time blowing bottles should be used at frequent intervals.

If during these irrigations the capacity of the cavity becomes stationary over three ounces and remains so for over a period of two weeks or if the patient's general condition indicates that drainage is inadequate open operation will usually be advisable. There are many cases on record where large sterile cavities have been allowed to close and the cavity has gradually obliterated itself but this is not the rule. If such a procedure is attempted the patient must be kept under careful observation until you are sure that the cavity has disappeared. Of course some of the cases which have developed a heavy thick wall around the abscess cavity will eventually get well by persistently continuing the Dakin's irrigations but the time and expense involved are often too great, especially when so simple an operation as a rib resection will permit the patient to be up and about his business.

The rib resection for open drainage can be done entirely without pain by use of the synergistic anesthesia mentioned

above and novocain. If the case is seen rather late it is well to make a fairly good sized opening to permit the breaking down of adhesions and the obliteration of any little pockets that may have formed. Two tubes may be introduced to permit a better means of washing out the cavity with antiseptic solution. In some cases there is considerable advantage in making a second opening at the top of the cavity. The tubing used should be fairly large, have side openings and be thick walled enough so that it will not be collapsed by pressure at its point of entrance. The tube may be fastened in place with a single silk worm suture. Later as the suture begins to cut its way out a safety pin through the tube and adhesive will be necessary. The tube should not be shortened until granulations have had plenty of time to form and then it may very gradually be shortened every three to seven days until removed. In chronic septic cases, especially if a bronchial fistula which will not permit the use of Dakin's irrigations is present, an open operation should be done. The fistula may be treated with gentian violet or silver nitrate to destroy the epithelial lining and allowed to close. The wound may be packed open with weak Dakin's packs until the fistula has entirely healed.

If a long narrow empyema cavity is present—we are speaking of the chronic cases now—the entire roof may be removed, the remaining thickened pleura decorticated and the area packed to allow healing by granulation. In larger shallow cavities after the removal of the roof and decortication a skin flap may often be used to good advantage instead of waiting for the area to become covered with granulation tissue. In some cases after preparation of the cavity a muscle flap may be turned in, Dakin's tubes inserted, the skin pulled together with interrupted silk worm sutures and the field irrigated until granulations have formed. In general then if restoration of the lung is impossible or undesirable or if a permanent pneumothorax is present, we obliterate the cavity by removal of the outer wall. However, we sometimes see cases where this is impossible, the

lung may be almost entirely collapsed. In such cases after building up the general condition of the patient an extrapleural thoracoplasty may be the only means of permanent cure. If possible, introduce the closed method of drainage, do a sub-periosteal removal of the ribs well beyond the edges of the cavity and continue the closed method of drainage with Dakin's irrigations until the muscles have pulled the outer wall in far enough to reduce the cavity to a minimum and then do an open operation to obliterate the remaining cavity if necessary.

Very extensive operations may be done in several stages. Usually there is surprisingly little shock if the pre-operative care of the patient has been properly attended to.

The Dakin's solution used in these cases should be made up fresh each day and titrated. If that is impossible it may be kept fairly potent for several days in sealed dark bottles.

I have attempted to bring out the general principles and the important factors involved in the treatment of these cases both acute and chronic. I wish to remind you that each case with its complications and sequelae is an individual problem which must be carefully studied and worked out to the patient's best interest.

—R—

### The Early Diagnosis of Tuberculosis

F. A. TRUMP, M.D., Ottawa.

Read before the Kansas Medical Society at its Annual Meeting, May 8-10, 1928, at Wichita, Kansas.

Tuberculosis is one of the most curable diseases in the world. Were this not true the human race would have been annihilated ages ago. We know from evidence gained by autopsies and the *x-ray* that practically every adult has been infected by the tubercle bacillus by the time he has had his growth, but that the resisting forces of his body have in most cases caused an arresting of the inflammatory process, a healed lesion resulting. We know that tuberculosis is contracted in childhood and the wonderful resisting forces of youth cause the bacillus to be surrounded and calcified, the process then being arrested. In later life when by overwork, loss of sleep, worry or disease the resistance of the patient is low-



ered, the bacillus becomes active again, the inflammatory process extends and the patient now has active tuberculosis.

Because of the knowledge of these facts it is most important that the medical profession shall be able to diagnose tuberculosis early when the involvement is small, the body not overwhelmed by the toxemia and the disease still curable. But the patient must become available to the doctor. The layman should be educated in the early signs of tuberculosis so that he will suspect the disease and present himself early for examination. This educational work is being done to some extent by the tuberculosis associations, medical societies and even by some of our life insurance companies. But it should be pushed still farther to lay organizations and into the public schools. It is the general practitioner's opportunity. He sees the cases when they can be diagnosed early. The patients do not seek the chest specialist when they feel the vague, early symptoms of tuberculosis but rather go to their family physician for relief.

The physician should be on the lookout for tuberculosis in every patient that comes into his office because this disease as in syphilis is a great imitator and must always be ruled out. We should find active tuberculosis in about 2 per cent of all patients that come to us. However the general practitioner due to overwork is often careless and does not take the time necessary for a thorough examination. Or too often he is not capable of recognizing and making an early diagnosis of tuberculosis. This is due in most part to his training. Medical schools do not emphasize tuberculosis as they should. General hospitals as a rule do not accept tubercular patients so that there is a limited amount of teaching material available. Therefore internes do not have an opportunity to study and treat this extremely important disease. Every general hospital should make provision to care for tuberculosis patients.

Any well trained physician should be able to make an early diagnosis of tuberculosis. The methods that are used to arrive at a correct diagnosis are very

simple. No elaborate apparatus is generally needed.

*The Family History* should divulge the possibility of exposure during childhood at which time a person is the most susceptible. The contact need not be in the immediate family but may be a relative, a servant, a neighbor, a school teacher or others with active lesions with whom the child may have intimately associated. The fond grandparent may have had "weak lungs" or camouflaged under the diagnosis of having a "bronchial cough" all his life and exposed hundreds of children by his promiscuous spitting.

*The Personal History* brings out the health story of the patient. Whether he was rugged or perhaps caught everything that was going around. And something as to his development and weight at different ages. Then the history of the nose and throat infections, influenza, pneumonia and typhoid.

*The Present Symptoms* are important. Of all the symptoms that a patient complains of, that of constant fatigue and loss of strength is the earliest and one of the most important. Ninety per cent of all patients with active tuberculosis complain of this and it is a result of the toxemia upon the muscular and nervous systems. A prolonged cough is one of the common symptoms that bring the patient to the doctor. A cough may be big or it may be considered by the patient a mere clearing of the throat. Often they do not remember the day of the onset, it coming on so gradually. At other times a history of cold or influenza is given as the cause and the patient states that he "was never able to get rid of the cough." A cough lasting over four weeks is very suspicious of tuberculosis. The possibility of a cough from extra-pulmonary conditions must always be borne in mind. Sinus infection is often responsible for a persistent cough and adequate drainage brings prompt relief. Hypertrophied tonsils and elongated uvulae are also causative factors. Invariably a mouthful of blood brings a patient hurrying to the doctor. Every person should know that coughing up blood, as much as a teaspoonful of clear blood, always means pulmonary tuberculosis where other



causes may be ruled out. And that hemorrhages do not come from the bronchi. Mitral stenosis and bronchiectasis do produce blood in the sputum but careful examination will eliminate these possibilities. Pleurisy with or without effusion should be considered tubercular when there is no evidence of intrathoracic tumor, cardio-renal disease or beginning pneumonia. In the so-called idiopathic pleurisy the patient should be treated as a case of pulmonary tuberculosis, regarding the pleurisy as a symptom. Rectal fistulae are considered tubercular in origin and the history of such should bring about a thorough search for tuberculosis elsewhere. Chronic enlarged or suppurating lymph glands should be regarded as suspicious and a careful examination made of the lungs. A provisional diagnosis of tuberculosis should be made if there is persistent fever in the afternoon in a patient without other demonstrable cause. A temperature record is valuable in making a diagnosis of tuberculosis. Any patient suspected of tuberculosis should be put to bed and a temperature taken and recorded four times a day (8-12-4-8) over a period of ten days. In the presence of active tuberculosis an afternoon temperature will be found from 99.2° to 100°. A low morning temperature causing a wide variance between morning and afternoon temperatures is often characteristic.

Loss in weight and low blood pressure are fairly constant symptoms. However we are apt to be misled by the appearance of the patient as in the early case he may be robust, overweight in fact the picture of health.

Hoarseness is sometimes present and is due in the early stage to pressure on the laryngeal nerve. Functional gastrointestinal symptoms are often complained of very early due to the toxemia of the disease. The pulse rate is nearly always increased, running in the nineties. There is no disturbance of the rhythm.

#### PHYSICAL SIGNS

An examination cannot be thorough unless the patient is stripped to the waist and properly draped so that every part of the chest is accessible. The contour

should be noted. The supraclavicular spaces are often depressed or the upper part of the chest flattened. *Inspection* will reveal lagging of one or both sides indicating a limitation of expansion in the apices due to an inflammatory process in the parenchyma of the lung or to an old infection where the normal lung tissue has been replaced by scar tissue.

*Percussion* is valuable if used very lightly. To one examining many chests the "feeling" of the percussion note is as valuable as the sound produced. Impaired resonance will usually be found early on the affected side due to congestion of the lung tissue. There is normally a slight impairment of resonance over the right apex.

Without doubt the most important evidence is gained by *Auscultation*. The examiner should remember that all lesions of the upper lobe must be considered tuberculous until they can be proven otherwise. And that all lesions of the base should be considered non-tuberculous until they can be proven tuberculous. Auscultation should begin in the axilla working up toward the apex and comparing one side with the other with the patient breathing normally and through the mouth. The character of the breath sounds should be noted. Breath sounds are harsher over the diseased area and higher pitched. The expiratory note is usually prolonged and often of the cog wheel type. Rales will be found fairly early answering every description. But the type of rale makes no difference as any persistent rale above the third rib should warrant a diagnosis of pulmonary tuberculosis. No examination is complete without listening for rales after expiratory cough. The patient is asked to breathe out giving a slight cough at the end of expiration followed by a quick inspiration. Many times this will bring out definite and startling showers of rales where none could be heard before this procedure was employed. Rales should be persistent, not removed by cough or else quickly returning after cough. They should be well localized, the examiner being able to go back time and again and find them still present.

## SPUTUM EXAMINATION

Many of our doctors depend almost entirely upon the sputum examination for a diagnosis of tuberculosis. When a negative report is sent back from the laboratory they congratulate their patient and tell them that they have nothing to fear as there were no tubercle bacilli found in their sputum and that they cannot then have the disease. Because of this erroneous idea the writer believes that the examination of the sputum does more harm than it does good in many localities due to the mistaken idea among the general practitioners concerning the interpretation of a negative report. Instead of one sputum examination there should be many and if all negative they should still be considered valueless in the presence of positive findings by auscultation and the *x*-ray.

## X-RAY EXAMINATION

Where it is possible every chest should be *x*-rayed. Many times a lesion can be located with the roentgen ray which can only be suspected without it. Besides locating a tuberculous process one can obtain some idea as to the involvement, ascertain the presence of healed lesions, cavitation and adhesions to the pleura.

*x*-Ray will give one an idea as to prognosis and determine whether or not artificial pneumothorax or thoracoplasty might be utilized.

## TUBERCULIN REACTION

Tuberculin reactions are of great value in diagnosing tuberculosis in children. However as these tests are positive in persons with a healed lesion it is apt to be misleading in the diagnosis of an adult because as we know most adults have been infected by the tubercle bacillus, have healed lesions and so give a positive reaction. A negative tuberculin reaction is of value providing the tuberculin is in good condition. If several tests are all negative with different material tuberculosis may be ruled out. The subcutaneous tuberculin test can do a great deal of harm and should not be used by the general practitioner.

One examination is not enough to make a positive chest diagnosis. The case should be examined and studied several

times before an accurate diagnosis can be made. A suspicious case should be put to bed and a temperature record made while taking plenty of time to study the patient. More harm is done by failing to make a diagnosis of tuberculosis than is ever done in putting a negative case to bed for study as the bed rest treatment instituted for treating a case of tuberculosis would do no harm to any other condition which might be causing symptoms simulating tuberculosis.

We are able to determine from physical signs the presence of tuberculosis but no physical sign will give us any indication of activity. Even rales may be absent in a very active case until late. The general symptoms found in a given case are more valuable in determining the activity of that case than any other finding as they show the amount of toxemia being derived from the process.

## CONCLUSIONS

1. Tuberculosis is one of the most curable diseases in the world.

2. Every practicing physician should be able to make an early diagnosis of tuberculosis if he will take a good history and spend enough time examining the patient.

3. The most important symptom in the early diagnosis of tuberculosis is fatigue and the most important physical finding is persistent rales above the third rib and third vertebral spine.

4. A good rule for the general practitioner is the one suggested by Lawrason Brown<sup>1</sup>: "In order to make a positive diagnosis of pulmonary tuberculosis one or more of the following criteria must be present: hemoptysis of a drachm or more; pleurisy with effusion; moderately coarse rales above the third rib and third vertebral spine; a parenchymatous roentgen ray lesion in the same area and tubercle bacilli in the sputum. And in order to exclude pulmonary tuberculosis all five of the criteria must be absent."

5. From physical signs we may diagnose the presence of a tuberculous infection but no physical sign will give us any idea of activity. We must rely upon the constitutional symptoms for this as they



are a measure of the amount of toxemia being absorbed into the body.

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### A Visit to Harvey's Alma Mater—Padua

RALPH H. MAJOR, M.D.

Read at the celebration of the Tercentennial of Harvey's "De Motu Cordis," November 27, 1928.

During the past summer I was one day rather unexpectedly only an hour's ride from Padua. This being the year of the Harvey Tercentennial, my interest in Padua, Harvey's alma mater, was unusually keen. My visit to the university and the city was made particularly pleasant through the courtesy of a young Italian student whom I met in the court of the university. He most kindly acted as my guide and showed me a great many things of interest I otherwise should have missed.

Padua is one of the most ancient cities of northern Italy and for many centuries belonged to the powerful republic of Venice. The University of Padua was under the special protection of Venice and was the seat of learning to which the young Venitians flocked. During the Middle Ages it was one of the most celebrated universities of all Europe.

One of the earliest of the famous physicians at Padua was Petrus de Abbono, who was born in 1250, studied medicine in Greece, Constantinople and Paris, and was called to Padua as professor in the newly founded university. He taught with great success and through the practice of his profession gained not only wealth but envious competition. He was accused of practicing the black art and was said to have the power of having all the money he spent returned to him. In 1306 he was brought before the Inquisition and accused of being a sorcerer, but was acquitted through the "influence of powerful protectors." Ten years later, at the age of sixty, he was again brought before the Inquisition, but died during the trial and was buried in the Church of St. Anthony at Padua. The Inquisition continued his trial, found him guilty and ordered his body burned. A maid servant, Marietta, in the dead of night, removed his body from the Church, carried it to

the Church of St. Peter and, finding an empty sarcophagus there, put him in it. The Inquisition, failing to find his body, burned him in effigy in the town square at Padua. Abbono is best known for his "De Venenis" or "Concerning Poisons." Two extracts from this work are of interest: "In old times, the kings caused a girl to be nourished upon napellus (aconite or hellebore) and from her embrace and breath, those who copulated with her were killed." "If mandragora be given in a drink to anyone, he will suffer from redness of the face, he will fall into a stupor with alienation and absence of senses." The last quotation shows that Abbono was familiar to a certain extent with general anesthesia.

The University of Padua was founded in 1222, making it seven hundred and six years old today. The old pictures of the university taken in 1623 resemble very much the view which one obtains at the present date. Many things of interest are seen by the visitor immediately upon entering the large central court of the main university building. Of especial interest are the "stemmata," which are coats of arms of the students who have studied at Padua in the past. There is a very large collection of them in the main room of the university and also throughout the court and in the hall. Of especial interest to the medical visitor is "stemma" of William Harvey, which was for many years lost, but rediscovered in 1893, covered with such an accumulation of dirt as to make it unrecognizable. It has now been cleaned up, repainted, and is of especial interest to English and American visitors. Harvey entered Padua in 1598 and graduated in 1602. At the time he studied in Padua, there were two universities, or perhaps we should say, two schools—that of the Jurists and that of the Humanists. The latter school embraced the faculties of Divinity, Medicine and Philosophy. The Jurist faculty, however, was that patronized particularly by the nobility and the upper classes, and Harvey matriculated at this school. However, he unquestionably attended lectures in medicine at the school of the Humanists. During this period there were large numbers of foreign stu-



dents in Padua and each group of students elected a councillor as their official representative. Harvey was elected councillor for the English nation in 1600 and as such, he took a prominent part in the installation of the new rector who was elected each year. The students of that age had a rather boisterous custom of attacking the rector after the ceremony and tearing his clothing from his body. Later on, these bits of clothing were redeemed at enormous prices. This custom, however, was subsequently discontinued because of the bodily injuries which some of the rectors suffered.

A visitor to Padua is shown, as one of the interesting features of the medical school, the old anatomical theatre which was built by Fabricius, Harvey's teacher. In this amphitheatre, Fabricius studied the effect of ligatures on the blood vessels, experimented with the valves of the veins and demonstrated that stomach contents could be removed with a stomach tube. Here, Harvey carried out his dissections and conducted his experiments on the circulation. His discovery of the circulation of the blood was doubtless made in this amphitheatre. In later years, Morgagni performed autopsies in this amphitheatre and laid the foundation for modern pathological anatomy. The theatre has remained unchanged since the time of Harvey.

Many distinguished professors of anatomy taught at Padua. Vesalius was called to Padua in 1537, at the age of 22, as Professor of Anatomy. He remained here seven years, drawing a salary equivalent to \$8,000 to \$10,000 a year at the present value of money. Later, however, he became physician to Emperor Charles V, married and became a courtier, and gave up anatomy entirely. From Madrid, he wrote to one of his medical friends that he "could not so much as get hold of a dried skull, let alone the chance of making a dissection." There is a splendid portrait of Vesalius by Titian in the Uffizi Gallery in Florence.

Vesalius was succeeded by Fallopius, who described first the chorda tympani, the semicircular canals, the sphenoid sinus, the Fallopian tubes, the round ligaments, the trigeminal auditory and glos-

sopharyngeal nerves and named the vagina and placenta. The astonishing industry of Fallopius must have pricked the conscience of Vesalius who, during all this period, was living on his past laurels and doing nothing worth while.

Giulio Casserio (1561-1616) was Professor of Anatomy in Harvey's time and one of Harvey's teachers. He is best known for his "Tabulae anatomica," which Oliver Wendell Holmes described as a collection of "eviscerated beauties."

Morgagni, who held classes in the old anatomical theatre, was professor from 1716 to 1771, sixty-six years, and published his famous "de sedibus" in his seventy-ninth year. Let those who believe that all creative scientific work is done before the age of forty, take note! Morgagni described first, cerebral gumata, disease of mitral valve, syphilitic aneurysm, acute yellow atrophy of liver, first recorded case of heart block (epilepsy with slow pulse), consolidation of lungs in pneumonia, and showed that meningitis may result from middle ear disease.

Galileo was a professor at Padua for eighteen years, 1592 to 1610. At first he had a salary of 180 florins, which was gradually increased to 1000 florins per year. His lectures were attended by audiences as large as two thousand. He was Harvey's teacher and his remark about his astronomical clock, "My clock will not vary so much as the beat of a pulse," possibly impressed young Harvey and turned his attention to the circulation. In 1597 Galileo constructed the first thermometer. The patient's temperature was taken by having him grasp the bulb of the thermometer. As is well known, he had serious difficulties with the Church because of his view that the sun was the center of the celestial system. The Holy Office reported that his view that the sun is immobile in the center of the world, "is absurd in philosophy and formally heretical because expressly contrary to Holy Scripture." By command of Pope Paul V, he was summoned to the palace of Cardinal Bellarmine and officially admonished not to "hold, teach or defend" the condemned doctrine.

Galileo was silent for sixteen years and then published his famous "Dialogues," which again upheld the view that the sun was the center of the celestial system. He was taken into custody by the Inquisition and, under threats of torture, recanted. He was condemned as "vehemently suspected of heresy" to incarceration and enjoined to recite as penance once a week for three years the seven penitential psalms.

Galileo touches medicine at several points. He devised one of the earliest compound microscopes, although the actual discovery of this instrument was made by Zacharias Jensen. According to the story, Galileo heard a rumor of such an instrument and, shutting himself up in his study one evening, armed only with pen, paper and his magnificent brain, drew up the plans for a compound microscope, which were subsequently executed and the best compound microscope of his time was produced. The old rostrum of Galileo, from which he defended his "heretical doctrine," is still shown to visitors at Padua.

Rinaldo Colombo, a professor at Padua in 1559, six years after Servetus' death, described the pulmonary circulation. Opinion is divided as to whether this was an original discovery or whether he had obtained from some unknown source the knowledge of Servetus' views. Servetus, as will be recalled, was burned to death at the stake at the instigation of Calvin and most of the volumes of his famous work, "Restitutio Christianisme" were burned at the same time. Colombo's description was nineteen years before the birth of Harvey.

Sanctorius, the father of the physiology of metabolism, was professor at Padua for many years. He described a clinical thermometer, a pulsilogium or pulse clock, and studied "insensible perspiration"—experiments that were the forerunners of metabolic studies.

Another famous professor at Padua was Charles Patin, the second son of Guy Patin, the celebrated surgeon of Paris. Many famous Englishmen studied at Padua.

Thomas Linaere, who graduated at Padua in 1492, was physician to King

Henry VII and Henry VIII of England and is honored by Englishmen with the title of "restorer of learning." He made the first translation of Galen and established foundations for lectures on medicine at Oxford and Cambridge, at both of which universities the lectures will be held.

John Evelyn, one of the founders of the Royal Society, was a student at Padua. Sir Thomas Browne, author of "Religio Medici," was a student at Padua in 1630. His "Religio Medici," published in 1643, gave him undying fame. The book was translated into Dutch, French, German, Italian and Latin. It did not meet with the approval of the Papal authorities and was placed on the Index Librorum Prohibitorum December 18, 1646.

Dr. Caius, whom Shakespeare depicts in the "Merry Wives of Windsor," was an old student at Padua. Among other famous alumni and teachers at Padua were Adrian von Spiegel, who described the Spigelian lobe of the liver; Olaus Worm, who described the Wormian bones; Caspar Bauhin; John Heinrich Meibohm, who described the Meibomian glands; and George Wirsung who, in 1642, described the pancreatic duct, which we call today the duct of Wirsung.

Clinical bed-side teaching was first commenced at St. Francis Hospital at Padua in 1578 by Addi and Bottoni. It is interesting to note that this good example was not followed very long and it was fully two hundred years before this method of teaching medicine was accepted.

The medical visitor at Padua will find many things to interest him. Side by side with evidences of the past greatness of Padua, he sees abundant evidence that the University of today is living up to the worthy traditions of its past. New buildings with splendid equipment stand side by side with buildings that were old before Harvey was born. Padua today has many distinguished professors who are the worthy descendants of those who have been discussed.

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Few middle-aged men take up the bareheaded fad because they realize it is easier to check a hat than a cold.—Louisville Times.



## The Blood Pressure in Disturbances of the Thyroid Gland

JOSEPH L. DECOURCY, M.D., Cincinnati.

The effect of the thyroid secretion on blood pressure has not been accorded sufficient importance, largely because of the divergence of the views expressed and the contradictory character of the meager scientific evidence. Falta<sup>1</sup> cites the work of investigators who observed a fall of blood pressure after the intravenous administration of the juice of the thyroid gland. Feeding the thyroid gland produced, in most instances, an increase in the fall of the blood pressure from center to periphery, such as is observed in aortic regurgitation.

Scientific research, however, does not help us much in this problem and we must return to clinical facts.

### BLOOD PRESSURE IN EXOPHTHALMIC GOITER

In exophthalmic goiter the cardiovascular manifestations may be likened to those occurring in aortic insufficiency, although they are less in degree. The throbbing arteries of the head and neck—which may shake the entire body with each cardiac systole—the rapid collapsing pulse, the alternate flushing and blanching of the skin, and the presence of a capillary pulse readily suggest this analogy.

With regard to blood pressure, the analogy still holds. Plummer<sup>2</sup>, Taussig<sup>3</sup> and others have shown that the systolic pressure is usually somewhat increased, while the diastolic remains normal or is a little low. The result is an increase of the pulse pressure, which normally amounts to 50 per cent of the diastolic, to an average of 90 per cent of the diastolic pressure.

Taussig found a distinct difference between the blood pressure in the brachial and femoral arteries in exophthalmic goiter, as in aortic regurgitation; that is, the blood pressure was considerably higher in the femoral artery than in the brachial. The systolic pressure averaged 37.3 mm. higher in the femoral artery; the diastolic, 7.6; and the pulse pressure, 29.7 mm.

A picturesque symptom observed in aortic insufficiency is a distinct pulsation

of the retinal arteries in the fundus oculi. This sign is also present in cases of exophthalmic goiter, and in the two diseases the mechanism of its production is the same. It is due to an extremely low diastolic pressure in the peripheral arteries with a disproportionately high pulse pressure, causing the small arteries to pulsate visibly with each cardiac systole.

### RELATION OF BLOOD PRESSURE TO BASAL METABOLIC RATE

I have repeatedly observed in cases of thyrotoxicosis that the systolic and pulse pressure tend to increase proportionately with the basal metabolic rate. After successful operation, the fall in systolic pressure is parallel to the reduction in the basal metabolic rates.

Similar findings were reported by Troell<sup>4</sup>, who found a higher systolic pressure and greater amplitude of pressure—the latter running parallel to the increased metabolism—in exophthalmic goiter patients than in controls of the same age. After thyroidectomy, the blood pressure in Troell's cases likewise returned to normal.

Handel<sup>5</sup> found a similar relationship between blood pressure and basal metabolic rate in cases of essential hypertension. In nephritic hypertension, on the other hand, the basal metabolic rate was almost normal.

Mannaberg<sup>6</sup> likewise found the basal metabolic rate consistently increased in twenty patients with essential hypertension whose blood pressure ranged upward of 180 mm.

It would appear, therefore, that there is a definite relationship between the blood pressure and the basal metabolic rate not only in exophthalmic goiter but also in other conditions not related to the thyroid gland.

I believe that the increase in systolic blood pressure is proportionate to the duration of the disease and the degree of toxicity, principally the former. Whether or not hypertension is due directly to thyrotoxicosis, has not yet been determined; but its association with this disease is so common that Graves' disease must always be considered as a possible cause of the high blood pressure, after



more common conditions have been excluded.

The blood pressure changes in exophthalmic goiter may perhaps be considered as an adjustment to meet the demands placed on the body by the higher metabolic rate. A higher level of metabolism and tissue breakdown necessarily requires a greater supply of oxygen to the tissues. To meet this demand the blood must flow more rapidly. Hence the pulse rate is accelerated and the *vis a tergo*, in the form of the heart beat, increased, while the peripheral blood pressure is lowered, thus reducing resistance to the outflow of blood.

In our studies at the Clinic, we have placed the normal systolic blood pressure at 135 mm., regardless of the age of the patient. It was observed that the blood pressure tended to vary under different environmental conditions; therefore, our practice was to take it only after an hour's rest in a quiet room amid conditions conducive to relaxation.

We have found that, while exophthalmic goiter carries a low diastolic blood pressure, this condition is not true of toxic adenoma. On the other hand, toxic adenoma in its later stages is associated with a much higher systolic pressure.

#### HYPERTENSION AND GLYCOSURIA

The glycosuria occurring in the course of many cases of Graves' disease appears to bear a definite relation to hypertension and also to emotional disturbances. Feinblatt<sup>7</sup> reported that in 2,000 routine blood chemical examinations eighty-one patients were found to have a blood sugar level above 0.15 per cent; only 42 per cent of these patients were diabetic. It is known that a number of circumstances affect the concentration of blood sugar under normal and pathologic conditions. Furthermore, the renal threshold for sugar varies in different individuals, so that no definite rule can be followed; but usually sugar begins to appear in the urine when the blood sugar concentration reaches from 0.15 to 0.18 per cent. In normal individuals it is impossible to raise the blood sugar level above 0.17 per cent even by the administration of large amounts of glucose.

As emotional perturbation may cause

transient hyperglycemia and the renal threshold for sugar may vary even in the same person at different times, it has been our policy not to form conclusions on a single blood sugar examination. We have found glycosuria present most often in those cases of Graves' disease associated with hypertension or other marked vascular changes. We have come to regard patients of this type as potentially diabetic.

Some patients with Graves' disease showed glycosuria from time to time, although the simultaneous blood sugar reading was normal. When the sugar tolerance test was performed, varying curves were obtained. Some were normal; others were typical of true diabetes.

In cases of hypertension and hyperglycemia associated with exophthalmic goiter, the emotional element must always be considered; but I have come to consider hypertension the most important factor in causing hyperglycemia. When true diabetes mellitus develops in such cases, it usually runs a mild course, unless gangrene or other vascular complications should set in.

#### BLOOD PRESSURE IN MYXEDEMA

As a general rule, the pulse rate and blood pressure tend to rise or fall with the basal metabolism. Hence it is not surprising that in myxedema, a disease characterized by a marked reduction in the metabolic level, both pulse rate and blood pressure drop markedly.

Willius and Haines<sup>8</sup> in 1925 reported a careful study of their findings with reference to the cardiovascular apparatus in 142 cases of high grade myxedema. The basal metabolic readings varied from -10 to -44 per cent. The average pulse rate in this series was 63; systolic blood pressure, 110 mm.; diastolic, 74; and pulse pressure, 36 mm.

After elevation of the basal metabolic rate by thyroid treatment until it averaged -4 per cent, the average pulse rate rose to 77. The systolic blood pressure was 113 mm.; diastolic, 68; pulse pressure, 45 mm. In other words, the normal cardiovascular ratio was restored with the return of a normal basal metabolic rate.

Although they found numerous electrocardiographic abnormalities which disappeared under thyroid medication and also the deviations in the blood pressure and rate to which I have just referred, Willis and Haines saw no evidence to justify the establishment of a cardiac syndrome characteristic of myxedema; nor could they identify any particular cardiovascular lesion as due to thyroid insufficiency.

That arteriosclerosis is a frequent complication of myxedema, has long been known. But Fishberg<sup>9</sup> has pointed out that, in spite of this common association, hypertension is not the rule in myxedema. It has been reported occasionally and, in some instances, the administration of thyroid reduced the hypertension.

In myxedema frequent blood pressure readings are important as a means of presaging, and also averting, circulatory failure. As systolic and pulse pressure fall proportionately, cardiac failure may be said to be imminent when the blood pressure is reduced to a considerable degree.

As an indication of threatened circulatory disaster in exophthalmic goiter, irregularities of the cardiac rhythm are more important than changes in the blood pressure. While the heightened systolic blood pressure places an increased burden on the heart in this condition, the great fall of pressure in the peripheral arterial field acts as a compensatory mechanism, serving to reduce the resistance against which the heart must pump.

In my experience with disorders of the endocrine system, the thyroid is the only gland—excluding the rare condition of Addison's disease—disturbances of which produce marked changes of the blood pressure.

#### CONCLUSIONS

1. The blood pressure in disturbances of the thyroid gland tends to be proportionate to the increase or decrease in the basal metabolic rate.

2. In exophthalmic goiter the vascular changes are similar to those of aortic insufficiency, but less in degree. The pulse is rapid and collapsible, the normal difference between the peripheral and central systolic pressure exaggerated, the

pulse pressure increased at the expense of the diastolic, and the blood pressure in the lower extremities greater than in the upper.

3. In myxedema the pulse rate and the systolic and diastolic blood pressure are reduced proportionately to the basal metabolism.

4. The most important presage of circulatory failure in myxedema is a marked drop in the blood pressure; in exophthalmic goiter, the beginning of cardiac arrhythmias.

5. Of all the endocrine glands, the thyroid is the most important cause of irregularities of blood pressure.

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#### An Umbilical Cord Tie

HARRY W. DAVIS, M.D., Plains, Kan.

I have devised a ligature that seems an improvement over the usual method and is so practical and efficient that it seems worth while passing on to the profession.

Two ligatures are cut the usual length and are laid side by side (parallel) the ends are even.

They are securely tied together at the junction of the lower and middle thirds. This leaves two long ends and two short ends with a knot between.

The cord is encircled by the two long ends and tied in the usual manner. Now one long end is brought up over the top of the cord and tied to the short end opposite. The other two ends are tied the same way. This crushes and ties off the vessels in addition to the old "choking" circular tie, and is of considerable value in avoiding hemorrhage.



### Treatment of Hemorrhoids

BARRETT A. NELSON, M.D., Manhattan

Read before the Riley County Medical Society, September 3, 1928.

It is probable that we see no class of patients more frequently, who are so commonly treated improperly, as cases of hemorrhoids. On the other hand, these patients can usually be given prompt relief from this condition with a surprisingly small amount of pain and discomfort in the hands of a surgeon familiar with a few simple rules of technique.

Until very recent years it was considered that any of the curative measures applied for removal of hemorrhoids were necessarily accompanied by a considerable degree of pain. A large number of surgeons, and particularly general practitioners, still hold this view. Methods have, however, been developed by such proctologists as Hirschman, Hulsiek and Montague, which have removed the element of post-operative pain to a very large degree. The surprising thing about their technique is its extreme simplicity as compared with the former elaborate pre-operative preparations and post-operative care such as large doses of opium to inhibit bowel movements, useless plugs left in the anus, and unnecessary tubes for passage of gas. There are a number of details of technique still widely used that have no apparent rational application and are only in use because someone applied them when rectal surgery was new and little understood. In the technique about to be described these "fetishes which," in the words of Hulsiek, "have come down with time and with no other excuse for their existence," have been eliminated; and only such procedures as have a rational basis are retained.

#### INJECTION TREATMENT OF HEMORRHOIDS

The simplest and, within its proper field, a very effective method is injection with quinine and urea hydrochloride. Strangely, this method was fostered by the advertising quack for several years before it received recognition as legitimate therapy. However, it is now generally accepted and widely used by many of our leading proctologists.

The advantages over surgical removal are the comparative freedom from pain during treatment, no loss of time by hospitalization, and the saving of the cost of hospitalization. The thought of a surgical operation is abhorrent to many patients and this class is usually quite willing to come to the office repeatedly for treatments.

The type of case that responds best to injection treatment is the one with internal hemorrhoids covered entirely by mucous membrane, and these comprise 80 to 90 per cent of the cases seen. This method is not applicable to the external hemorrhoid with a cutaneous covering, nor should it be used where there is ulceration. Internal hemorrhoids that are markedly inflammatory should first be treated with suppositories, local applications, Sitz baths and the use of mineral oil until the inflammation has subsided, after which injections may be started. The internal hemorrhoid formed largely of connective tissue which is hypertrophic and fibrous is another type that does not respond well to this treatment.

Phenol has been used for this purpose in varying strengths, along with many other solutions, sometimes with intent to produce a sloughing away of the hemorrhoid. This is now considered bad practice and the desired result is the production of a low-grade inflammatory process followed by proliferation of fibrous tissue which contracts and obliterates the injected hemorrhoid.

The preparation used is quinine and urea hydrochloride in 5 per cent solution. The patient is placed in the Sims position. I have found an electric head lamp of the type used by nose and throat men very useful in lighting the field. The hemorrhoid is exposed through a Hirschman anoscope, cleansed with an applicator and a few drops of the solution injected into the body of the hemorrhoid well up inside the muco-cutaneous line. An ordinary Luer syringe is used with a 2 or 2½ inch needle of about 24 gauge. A total amount of not more than one cubic centimeter is injected and not more than two or three hemorrhoids should be treated at one time. The injections are repeated at intervals of seven to ten days

and six to ten or twelve treatments are required, depending on the severity of the case.

There is little or no pain at the time of injection, as the solution used is itself a local anesthetic. Occasionally there will be complaint of a dull, throbbing pain a few hours following the first two or three treatments, usually about the time of retiring. For this two allonal tablets give effective relief and are routinely given at that time.

The relief following one or two treatments is often very striking. One of my patients now under a course of injections had severe, bleeding, prolapsing, internal hemorrhoids that had been present twenty years. He reports there has been no prolapse and only a very slight streaking of blood on one or two bowel movements since his first injection.

It is advisable to have these patients return for re-examination about three months after an apparent cure. If there be a slight recurrence, one or two additional injections will take care of it.

There is another method of injecting hemorrhoids which gives a quicker cure, requiring only one or two treatments. A larger quantity is injected and laid down beneath the mucosa along the margin of the hemorrhoid. This is very effective in the hands of some workers, but I have seen cases followed by serious sloughs and one resultant recto-vaginal fistula. I feel that, in the hands of the general practitioner at least, the method outlined above will give uniformly better results.

#### SURGICAL REMOVAL OF HEMORRHOIDS

It is with particular reference to the operation of hemorrhoidectomy that I referred to "fetishes that have come down with time." The first of these is the almost ludicrous effort so commonly attempted to empty the bowel just before operation. This is quite unnecessary. It is impossible to really cleanse the field of operation; catharsis aggravates and irritates the mucosa which we wish to place at rest; and many an operator has been greatly disconcerted in the middle of his operation by discharge of a liquid stool consisting of a partially retained enema.

A mild cathartic may be given two days before the day of operation but not later, and an enema the evening of the day preceding operation. There is no preparation of the field other than cutting of the hair about the anus with scissors. Shaving is very irritating and it practically always results in scratches and small cuts of the irregular skin surface.

No food is taken the morning of the operation. Ordinarily there is no preliminary hypodermic, though the very nervous patient is sometimes given 1/6 or 1/4 grain of morphine sulphate. It is doubted that even this is advisable, for the operation is painless under caudal anesthesia and the morphine often causes nausea and a nervous state that are more annoying than the slight apprehension which the drug is supposed to overcome. Atropine is not used at all, as it serves no purpose with local anesthesia and only causes an uncomfortable dryness of the throat. Recently we have been using veronal before novocain anesthesia and have had excellent results giving 5 grains one hour before injection of the anesthetic. This quiets the patient; and recent research has indicated a desirable anti-toxic effect with veronal.

The prone position has been selected as most satisfactory, especially with the patient awake. The hips are elevated slightly by a pillow and the arms supported by rests or an arm board. The patient is indescribably more comfortable than in the rack-like lithotomy position and the operator and his assistant are working over a horizontal and practically a plane field, readily accessible and in full view of both. For those who prefer it the Sims position is also quite satisfactory.

The anesthesia of choice is novocaine by caudal administration. It gives complete anesthesia and, what is even more important, there is perfect relaxation of the sphincter. Herein lies part of the secret of postoperative comfort. Under general anesthesia the sphincter is forcibly divulsed, not relaxed, and there is always more or less tearing of muscular fibers and ecchymosis, both productive of severe pain and tenderness later. With



caudal anesthesia no forcible divulsion is required; the sphincter becomes quite flaccid and traction laterally on the buttocks gives a ready exposure of the entire operative field with the patient in the prone position. Forty c.c. of 2 per cent novocaine is used, or 60 c.c. of 1 per cent with adrenalin. Anesthesia is obtained in 10 to 15 minutes after injection through the sacral hiatus. In our series the smaller amount of the stronger solution has seemed more effective.

Mercurochrome is used on the skin of the operative field and in the anal canal.

Selection of the type of operation is open to considerable discussion. The old stand-by, the clamp and cautery operation, still has many staunch advocates; but it is also heartily condemned by Hirschman and others. The point is made that it is more quickly done than ligature and excision. It is, however, followed by much more swelling and pain; and post-operative hemorrhage is relatively more frequent. Of 600 cases recently reviewed by H. G. Anderson, 70 per cent of those operated by clamp and cautery required analgesics for severe pain, while only 30 per cent of the ligature and excision cases required such medication after operation. Ligation alone has a very limited field and is not now widely used.

Ligature and excision is the operation we have found most satisfactory. The hemorrhoid is grasped in a forcep and drawn down until the vessel entering its base is freely exposed. A catgut ligature is then passed through the mucosa with a heavy curved needle so as to include this vessel and tied firmly. It must pass deeply enough to cut off the blood supply of the pile and must be placed high enough so it will not slip out after the pile is removed.

The hemorrhoid is then excised from above downward using great care to remove just as little mucous membrane as possible. If it be an externo-internal type, the skin is treated in the opposite manner and excised widely. Too often a conservation of skin about the anus will result in co-aptation of the margins with retention of infected tissue juices which prevent healing and sometimes result in fistula formation.

The margins of mucous membrane are united by one or two light sutures; but no sutures are placed in the skin. Skin suturing about the anus is another of the causes of severe post-operative pain and it is quite superfluous. If any small subcutaneous arteries be encountered they may be ligated; but it is surprising how beautifully these wounds "heal from the bottom" if they are left wide open.

Each hemorrhoid is similarly treated in turn, using great care to clamp no tissue that is not subsequently removed.

The operation being completed and the surgeon having assured himself that all bleeding is controlled, vaseline or butesin picate is applied and a flat pad held in place over the anus with two strips of adhesive.

When the patient is back in bed a hypodermic of morphine is administered and he is placed in the Montague position, that is, the head pillow is removed and the hips are elevated on a firm pillow or pad with another pillow under the knees. This raises the anal region from its usual position of dependency in bed; and the relief from congestion does much to promote the patient's comfort.

Liquid petroleum or the emulsion of liquid petroleum and agar is started at once in dosage of one half ounce twice daily. Soft diet is given the first two days, light diet on the third. The hot Sitz bath is started on the third day for 15 minutes twice daily, one bath to come immediately after every defecation.

Once daily the external wound is cleansed with boric solution and mercurochrome 2 per cent applied to the raw surfaces, after which vaseline is applied and a vaselined applicator slipped into the canal.

On the fourth day a thoroughly lubricated finger is very gently passed into the anal canal. This breaks down any small adhesions which may have formed. Usually there will have been a bowel movement by this time as nothing has been given to prevent it. And, in most cases, the patient will volunteer the information that it was much less painful than his last passage before the operation. If necessary, a mild laxative may be given on the evening of the fourth

day and the following morning an enema of six ounces each of olive oil and water.

With this procedure it is rarely necessary to repeat the morphine and the patient is discharged in 5 to 7 days. It is well to have him report to the office every second day for examination and cleansing of the wound until it is well healed. I usually have him return again a month later. Frequently one or two small internal hemorrhoids will be found then; and these are given one or two injections of quinine and urea hydrochloride.

The following are the points which are important in achieving successful hemorrhoidectomy with a minimum of pain and discomfort to the patient:

1. No irritation of the bowel by catharsis and enemas just before operation.
2. Relaxation of the sphincter instead of divulsion.
3. Care to clamp only tissue that is to be removed.
4. Conservation of mucosa and wide excision of skin.
5. Minimum of suturing in the mucosa with no sutures in the skin.
6. Intelligent post-operative care.

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#### Expert Evidence

J. A. DILLON, M.D., Larned

The Doctor scanned the official document he held in his hand, and which the office girl informed him had been left by the sheriff. It was a subpoena to appear at the court house on a certain day, there to testify in the case of etc., etc.

The Doctor remembered the case distinctly. He had ministered professionally to the plaintiff, who had run his car off a culvert and broken a leg while bringing a "jag" home from a neighboring

town—for which he should have made three trips. The culvert being only forty feet wide, naturally was very difficult to negotiate. The plaintiff, or rather the patient and car, were strewn in several directions and over a fairly large territory; the former blasphemously indignant at township authorities for allowing a culvert in the middle of the road.

A damage suit was the aftermath, and the Doctor was subpoenaed by the defense to show lack of co-ordination on part of the plaintiff due to intoxicants.

Realizing the danger of tampering with the majesty of the law, the Doctor was on hand promptly at 9:00, the hour designated. He sat patiently until noon, and was back again at 1:00; at 4:30 he was called to the stand. He gave the Judge a pleasant greeting, and received a curt nod in response. This chilling reception rather puzzled him, especially as he and the Judge with a couple other cronies had been up until 2:00 that morning deeply engrossed in a friendly penny-ante session.

The Doctor could recall no especial passage at arms that should lead to ranklings of ill feeling in the Judge's heart. On the contrary he recalled the Judge had laughed long and loud on one occasion when he had driven the Doctor to cover with four hearts and a club.

To those unfamiliar with the noble pastime it may be pertinent to mention the aforesaid club lends no intrinsic value to the above hand; the card necessary to make this a really formidable contender being a heart. In brief, this worthless hand is known as a "bobtail," and any gentleman should consign it to the discard with an audible mention of its ancestors. However, one with sufficiently deceptive physiognomy may by treacherous facial expression convince his innocent adversary that the decrepit three-spot of clubs he has just drawn is the king of hearts. A tune softly hummed will often add to the diabolical deception. All these things the Judge had done the night before; not once, but several times, never neglecting to laugh uproariously.

The Doctor, who had been the goat of two or three of these "out on the limb" forays, was finally moved to remark he



didn't "see anything so d——d funny about it, and probably if some people studied their job more and a bobtail flush less, the Supreme Court would not have so many asinine decisions to reverse." To all of which the Judge listened and laughed till he choked. But this was the night before.

Now he was facing this stern jurist, who only gave him an inaudible grunt in return for his cordial greetings. The Doctor mentally vowed to use the largest catheter he possessed the next time he was called professionally to see the Judge.

The lawyer for the defense, who lived next door to the Doctor, and was a great hand to borrow lawn mowers, garden hose, yeast cakes, etc., guided the Doctor gently along by leading questions, bringing out everything that might prove favorable to his side. The Doctor meant to be fair, but felt himself coloring his statements due to the clever questioning of the lawyer. The latter finally finished, glanced triumphantly at the jury, and with withering contempt turned to the opposing counsel and said, "take the witness."

The plaintiff's lawyer—friend, neighbor, and fellow golfer of the Doctor—walked from his chair, stuck his finger in the Doctor's face and roared, "you may state your business!"

The Doctor was momentarily embarrassed. "Why—you know—ah——"

"Come! Come! No whys and wherefores! This intelligent jury demands to know your business!"

The jury to a man threw their chests out perceptibly, and looked stern. With one exception they owed the Doctor a fair sized bill.

The Doctor, looking foolish, stated his business, and explained to the jury, at the questioning of the lawyer, that he was not a veterinary doctor but a doctor of medicine.

The jury appeared somewhat mollified; and the sheriff coughed unnecessarily.

The attorney asked, "do you recognize the plaintiff sitting here?"

The Doctor gazed intently at this individual, and said he did.

Counsel for defense jumped excitedly to his feet, awakening four jurors, and "objected" as being irrelevant, prejudicial, and corpus spongiosum. The jury looked scared, but thought it a telling blow to the other side. After a spirited exchange of legal verbiage the jury was taken from the room, and the question of law was discussed. This was finally settled in favor of one side—no one seeming to know which—and the case was resumed.

"Now Doctor, you stated you found this plaintiff with a broken leg—how did you know the leg was broken?"

"By the position, pain, crepitation, etc."

"Now Doctor, did you see this crepitation before you approached the plaintiff or afterwards?"

"Why you know crepitation is ——"

"Answer my question, yes or no!" thundered the lawyer.

"No," said the Doctor.

"Aha, I thought so."

The jury glared at the Doctor for attempting to cover up this vital point.

"Now Doctor, since you have testified my client was intoxicated, I will ask you if he was staggering around, jumping up and down, kicking up his heels, climbing fences, or doing these things that intoxicated people do? Answer yes or no!"

"No."

"Are you familiar with the smell of liquor?"

"I am."

"Ah, I thought so." The lawyer smiled and exchanged a knowing look with the jury. "I will ask you—have you been intoxicated since the Woodmen picnic two weeks ago? Answer yes or no!"

"No."

"Do you consider it good policy for a doctor to become intoxicated whenever an occasion presents itself?"

"No, I do not."

"I am glad to know that you at least feel the disgrace of such conduct. That will be all, Doctor."

The defense agreed that would be all, and the Doctor shamefacedly slipped

from the court room. He was conscious of mothers clutching their children closer as he passed, and a stray cat dashed away in terror as he crossed the court house lawn.

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### Technique for Routine Gastric Analysis and Duodenal Drainage

RILLA HAMMAT, Kansas City, Kan.

From the Laboratory of Drs. Nesselrode, Allen and Krall.

Gastric analysis is a very essential part of a complete examination in all cases of chronic complaints, therefore, it is advisable to establish a routine procedure. This is especially true for a laboratory doing a number of gastric analyses a day for the same physician. The following technique has been found practical and offers sufficient information for routine examinations.

The patient is instructed to come to the office without breakfast and is given a large glass of hot beef bouillon, made from commercial cubes. This is easily prepared, palatable and serves as an excellent gastric stimulant. The advantages of this type of test meal are that it may be removed without clogging the tube and that it introduces a minimum amount of protein and one need have no fear of any appreciable chemical change in the contents if they have to stand a time before being analysed.

The gastric contents are withdrawn in forty minutes by aspiration through a Rehfuß tube and the amount recorded.

As the color and appearance of gastric contents are an indication of the degree of digestion it is well to note these. Old blood, duodenal regurgitation and previous meals tend to discolor the fluid while a totally undigested meal retains its original broth color.

Mucus is easily recognized and small amounts are normal.

A specimen containing bile should be titrated immediately as bile neutralizes the stomach acid.

The appearance of blood should be checked chemically and that produced by irritation to the throat by the tube discounted.

When a bouillon meal is used the contents need not be filtered for chemical examination unless there is a large amount

of mucus or many food particles present.

*Free and Total Acidity.* The amount and presence of free hydrochloric acid are determined by the Topfer method. A few drops of Topfer's solution added to 10 cc. of gastric contents gives a cherry-red color in the presence of free hydrochloric acid. This is titrated to a canary yellow by the addition of N/10 Na OH and the amount of acid calculated by the number of c.c. needed. A drop of 1 per cent alcoholic solution of phenolphthalein added to this yellow fluid and the titration back to the cherry red color gives the total acidity.

In the absence of hydrochloric acid and when the appearance of the gastric contents suggests retention Uffelmann's reagent is used to detect lactic acid. A few cc. of the specimen may be added directly to the acid. A canary yellow indicates lactic acid.

*Test for Blood.* Benzidine Solution is used to detect blood.

*Microscopic.* A microscopic examination made of a drop of unfiltered contents for yeast, sarcinae and bacteria is of limited value except in cases of suspected cancer when the finding of Boas-Oppler bacilli is of significance.

*Duodenal Drainage.* A duodenal drainage may be done following a gastric analysis but as a rule no test meal is given. The Rehfuß tube is introduced as for a gastric analysis only that water may be taken with it. The distance is designated on the tube by the first marking. At this point the patient is placed on his right side with the knees up close to the body. The stomach contents are allowed to siphon out. After 20 minutes the tube is taken down to the second marking. The patient is instructed to rub the abdomen from left to right and at the same time to take deep breaths. If the metal tip of the tube does not reach the duodenum within 20 minutes the patient may get up and walk about the room for a few minutes and then lie down again. It is not unusual to find a patient with a pyloric spasm who will be unable to get the tube past the stomach. This patient will have to be put on anti-spasmodics for a few days and then return for drainage.



When the tube passes into the duodenum the first fluid that drains out will be yellow and cloudy due to a mixture of mucus, bile and stomach acids. This soon clears and the real duodenal fluid begins flowing. At this stage specimens may be collected to test for the presence of pancreatic ferments. A microscopic examination for pus made by taking a drop of the fluid from the end of the tube.

Approximately 20 minutes after the fluid has been collecting, 30 cc. of a saturated solution of magnesium sulphate is introduced through the tube. This relaxes the common bile duct and the fluid becomes dark yellow and glycerine-like. This gradually becomes lighter and the tube is taken out when the original color appears. If a number of pus cells are found, a second portion of magnesium sulphate may be introduced and allowed to drain out. This hypertonic solution applied directly to the duodenal mucosa stimulates a rush of phagocytes to the part and is very beneficial in cases of duodenitis.

The frequency of duodenal drainages depends on the patient's symptoms.

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### TUBERCULOSIS ABSTRACTS

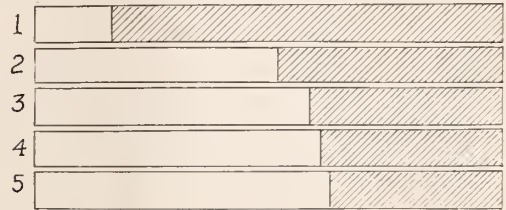
Osler, in his "Practice of Medicine," invariably gave generous space and careful thought to the subheading, "Prophylaxis." The several measures a tuberculosis patient should carry out for his own recovery and for the protection of others are well understood and of obvious purpose. Experience, however, shows that sufficient attention is not yet given to the careful instruction of the patient. There is still evident delay in making a definite diagnosis, delay by the patient in seeking medical advice, delay in deciding to accept treatment, delay in obtaining sanatorium treatment for lack of a bed or other reasons, and insufficient training in health habits looking toward both cure and prevention.

In an effort to ascertain the influence of these several factors, 1,500 patients in sanatoria were personally interviewed by physicians. A brief summary of certain conditions, based on a study of these interviews, is herewith presented.

#### TUBERCULOSIS PATIENTS INTERVIEWED

All the patients interviewed were at least fifteen years of age and all had pulmonary tuberculosis at the time they entered the sanatorium. All but three of the 1,500 patients had consulted from one

How 1,500 Tuberculous Patients Were Advised by Their Physicians



1. 17% were given printed instructions.
2. 53% were told to use only their own dishes.
3. 58% were told how to dispose of sputum.
4. 61% were advised what sleeping arrangements to make.
5. 63% were instructed to sleep alone.

to fourteen physicians each. The interview covered symptoms of the illness; the reason for the first consultation of a physician; the various types of physicians (*i. e.*, general practitioner, tuberculosis specialist, throat specialist, tuberculosis clinic physician) consulted by each patient; the extent of the examination given; the resulting diagnosis; the length of time elapsing between the appearance of the first symptom and the first consultation; the first consultation and the diagnosis; the time between the effort to obtain admission to the sanatorium and the actual admission; the number of nursing visits, and numerous other items.

Four questions relating to preventive medicine, to be answered for each physician consulted were asked each patient; namely, "Did physician instruct patient as to disposal of sputum?"—"Use of separate dishes?"—"Washing dishes separately?"—"Sleeping alone?"

#### DISPOSAL OF SPUTUM

What are patients told about the disposal of sputum? Of the patients who had consulted physicians, 625, or 42 per cent of them, had never been told by any physician how to dispose of their sputum. (Only a small number were physicians or nurses, who were supposed to know what

precautionary measures to take.) Of the 871 patients given definite instruction about sputum disposal, 677 first received it from the physician who first told the patient that his illness was tuberculosis, 107 from the second physician, and 24 others by physicians still further removed from the one making the original diagnosis of the patient.

#### CARE OF DISHES

Only about 53 per cent of patients were told by any physician consulted that they should keep their dishes apart from those used by other members of their households, and about the same per cent that their dishes should be washed separately.

#### SLEEPING ARRANGEMENTS

Advice to sleep alone was given to 63 per cent of all patients by some physician, more receiving instruction on this particular point than on any other preventive measure. However, only 61 per cent were advised as to other sleeping arrangements, such as instruction in regard to ventilation, etc. Good sleeping arrangements come under treatment rather than prevention, but the answers to the question regarding them have a bearing on the answers to the question as to sleeping alone. Taken together, they indicate that the thought of preventing infection was not always in the physician's mind when he advised his patient to sleep by himself. Of the 945 patients who were told to sleep alone and of the 919 who received advice as to other sleeping arrangements, 11 per cent and 12 per cent, respectively, were so instructed by a physician seen prior to the one who told the patient that he had tuberculosis.

#### WARNING THE PATIENT WITH SUSPICIOUS

#### SYMPTOMS

For instruction in preventive measures, prior to telling the patient that he had tuberculosis, two reasons seem apparent. Certain physicians had the welfare of others sufficiently in mind to tell their patients to exercise sanitary precautions even though a diagnosis of tuberculosis was not yet established. Others, and probably the larger number, failed to acquaint the patient with the diagnosis, yet felt impelled to impart a

certain amount of public health information.

A fact worthy of comment is that proportionately fewer patients, who were able to have private sanatorium care, had received instruction from their physicians prior to admission, than had those admitted to public sanatoria. This was the case with respect to each one of the items above.

Considering the group as a whole, it was evident that the more advanced the stage of the disease at the time of the patient's first admission to a sanatorium, the more likely he was to have previously received instruction respecting the several preventive measures.

#### EDUCATION AND INSTRUCTION

Education is perhaps the most effective public health measure for the prevention of tuberculosis. It also is a potent agent of cure. Oral instruction alone is often relied upon to accomplish the education. But the spoken word should be supplemented by written instructions. Most sanatoria provide the patient with a booklet containing the necessary advice and rules of conduct. Some private physicians, realizing the value of printed instructions, supply the new tuberculosis patient with a printed instruction book to guide him.

Each of the 1,500 patients who were interviewed was asked if printed instructions had been given him by any physician consulted, though no attempt was made to go into the detail of such instructions. Seventeen per cent replied in the affirmative. The best record of this score was shown by patients reported by one county sanatorium, 45 per cent of whom had received printed instructions from some physician prior to their admission.

The histories of this group reveal that instruction given to tuberculosis patients by physicians is not especially related to any one factor. Some of the physicians who did give instruction stressed one point to the exclusion of others; some, another. In view of the fact that the average physician sees only a few cases of active tuberculosis in the course of a year, he cannot be expected always to be a perfect instrument for the dissemination of advice to the patient. This study



would indicate that the medical profession as a whole gives insufficient thought to the personal instruction of the tuberculosis patient.—Special Study, National Tuberculosis Association.

### The Year in Retrospect

There has been an immense amount of writing on the subject of tuberculosis during this past year. Interest in diagnosis has been awakened by the Early Diagnosis Campaign, conducted by the tuberculosis associations last spring. Fewer so-called specifics have been brought forth; the question of "hilum" tuberculosis is still a matter of dispute as to diagnosis, though not so as to treatment. Ultra-violet ray medication has reached a point where a curb is sadly needed, while the after-care of consumptives by means of work shops, placement organizations, etc., is being recognized as an essential factor in treatment. The in-



A Profitable Pottery Industry, Developed by Patients at a California Sanatorium.

terest of the general practitioner in tuberculosis work is apparently on the increase, which in itself is a sign of real progress.—Progress in Tuberculosis, John B. Hawes, 2nd, M.D., New England Jour. of Med., Nov. 1, 1928.

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### UNIVERSITY OF KANSAS CLINICS Ulceration of the Meatus and Ammonia in the Diaper

CLINIC OF HUGH L. DWYER, M.D.  
Assistant Professor of Pediatrics

A boy, aged 18 months, is brought to the clinic with the statement from his mother that he cries whenever he urinates. Examination reveals a small ulcer, covered with a crust, at the urinary

meatus. There is also a dermatitis on the back and legs, conforming to that area covered by the diaper.

This ulcerated meatus is a very characteristic and common lesion found in circumcised babies, and is caused by ammonia in the diapers. Upon questioning, the mother states that the ammoniacal odor is very pronounced, especially in the morning when the baby is first taken from its bed.

Ulceration of the meatus and excoriation of the buttocks is a definite clinical entity, resulting from free ammonia due to the decomposition of urea and ammonium salts. The kidney and urinary tract are not at fault and the urine is normal. The whole process of ammonia production takes place when the urine reaches the diaper.

Two theories regarding the cause of this condition have been entertained and as yet the question is not settled in the minds of many. Several years ago J. V. Cooke found a bacterium in the feces of patients with ammoniacal dermatitis, and this organism had the power of liberating ammonia from normal urine. He called it *bacillus ammoniaganes* and showed that it was not the organism itself that caused the dermatitis, because broth cultures of the organism on gauze, when applied to the skin for a considerable time did not produce a lesion. He demonstrated that the organism could bring about the liberation of ammonia from any urine, and that it was the ammonia that produced the lesions.

Previous to his work it was thought that traces of strong soap in the diapers liberated the ammonia.

For the correction of this condition, Cooke suggested that the diapers be sterilized by passing them through an antiseptic solution, preferably a 1:5000 solution of bichloride of mercury.

For this patient, the mother is advised to give one teaspoonful of bicarbonate of soda in a glass of water every day. Small amounts of this may be taken throughout the day and this will bring about the replacement of some of the ammonium salts in the urine by sodium salts. The fat in the diet will be reduced, thereby decreasing the amount of acids excreted in the

urine. These acids in excess frequently require ammonia to neutralize them.

The diapers can be soaked in a solution of borax, one tablespoonful to the quart, or better in a bichloride of mercury solution.

The mother is advised to buy only one 7½ grain tablet of bichloride and to dissolve it in two gallons of water. After the diapers are washed, they are to be placed in this solution before being dried. It is a good practice to warn the mother to take home only one tablet, thereby lessening the possibility of accidental poisoning by having this drug in the house.

The crust that covers the ulcer on the meatus should be brushed off with cotton and olive oil. The excoriated buttocks should be cleaned with olive oil and dusted with cornstarch. Keeping the diaper off the baby during the day and exposure to the air as much as possible, will facilitate healing.

### **The Simultaneous Occurrence of Infantile Paralysis in Mother and Infant.**

CLINIC OF JAMES B. WEAVER, M.D.

Department of Orthopedics

These two cases of infantile paralysis are presented, not because of anything unusual in the course of the disease, but because of its rather unusual manner of occurrence.

Here we have an instance of infantile paralysis occurring simultaneously in mother and infant. While this coincidence has no doubt occurred before, several physicians of wide experience have told me that they have not seen a similar case and I have been unable to find similar cases reported in the literature.

Case Report: B. R., the mother, a white woman, age 23, was first seen by me on December 6, 1927, in the Out Patient Department. She stated that she had apparently been in good health up to September 15, 1927, but upon that date she arose with occipital headache, pain in the back and limbs. During the day she felt nauseated, but did not vomit and she had fever which ranged between 99° to 100.6° F. Symptoms continued, but she was up and about most of the time as her

baby was also ill. On the morning of the third day she found she was unable to move her right leg and the left was very weak. A physician was then called who pronounced her condition infantile paralysis. With the onset of the paralysis the headache and fever cleared up and she was quite comfortable except for a moderate amount of muscle soreness. The muscle soreness was gone in about two weeks time and she very rapidly regained the use of her legs. She was "hobbling" about in a month after the onset of the acute symptoms and has continued to gain since. Her chief complaint now is that her right hip "gives away" with her when she attempts to walk.

Examination revealed a well developed and nourished woman who walked with a marked right limp. Her upper extremities, chest, back, abdomen and left leg were negative for signs of paralysis. The right leg presented some atrophy of the gluteal group of muscles. The gluteal muscles were active, but weak. Other muscles about the hip and thigh were normal except the internal hamstring which was active, but weak. Below the knee no abnormality was noted except the tibialis anticus, which was active but weak.

This woman received about one dozen treatments of massage and muscle training in the physiotherapy department, but was unable to finance further treatment. Her improvement has been steady, and she now walks practically normally. Only a little weakness in the gluteal group is now apparent—the other muscles affected have regained their power.

L. R., the infant, girl, 11 months old, only child, was apparently robust and healthy up to September 14, 1927. The night of September 14, the mother noted that the child was very irritable and restless, and did not sleep well which was unusual. The next day the baby had from 1° to 2° of fever, regurgitated its food and objected to being handled. The fever lasted two days, but the child remained irritable and objected to being handled for about two weeks. At the onset of the paralysis in the mother the child was also investigated and it was noted that the child moved the right leg very little. She



was apparently normal in about two weeks time, but it was noted that right foot was held inverted.

Examination: Very well developed nourished baby. Mentally alert. No evidence of paralysis found except below the knee on the right leg. Here there was slight atrophy and it was noted the foot was held in an attitude of equino-varus. As near as could be ascertained there was complete paralysis of the peronei muscles and weakness of the dorsi-flexors of the foot. The deformity was easily corrected and a plaster of paris foot bandage was applied with the foot in the over corrected attitude. Two weeks later this plaster was bivalved to permit massage and exercise. A brace was suggested which the family could not afford to purchase. The child has improved and the peronei have shown some activity, while the dorsi-flexors are also stronger.

Comment: The onset of the disease in these two cases was evidently about eight hours apart. I think it is reasonable to assume, therefore, that the infection was received at the same time and from the same source by both patients. Multiple cases of infantile paralysis in one family are not uncommon, but in these instances the members affected become, as a rule, ill at about the same time and one child does not infect another. In this respect this case is typical.

It is of interest to note that both cases were very mild, though as a rule an adult has a much harder attack than a child. In each case the right leg only was affected. In this family were two other adults and a child about 4 years old, none of whom contracted infantile paralysis.

As usual the source of the infection is unknown. The mother stated that she and the babe had not been out of the house the previous two weeks. They had had visitors but as far as she knew none of them had been in contact with cases of infantile paralysis.

—R—

**Influenza "Preventives" and "Cures" are  
Fraudulent, Federal Drug  
Official Warns**

"It is the intention of the Food, Drug and Insecticide Administration to take

immediate action under the food and drugs act against all preparations represented by label or by circular accompanying the package as preventives or treatments of influenza, la grippe, pneumonia, and related diseases," W. G. Campbell, Director of Regulatory Work of the United States Department of Agriculture, said recently.

"There is a widespread and probably a fully justified public apprehension about influenza and some manufacturers have not hesitated to take advantage of this situation by advertising their preparations in every available quarter as preventives or cures for the disease. Unfortunately, the food and drugs act does not reach false advertising statements appearing in the press, or in any advertising medium not included with the package of the preparation itself. The food and drug enforcing authorities are therefore powerless to check such misleading advertising, serious as the consequences may be in the case of those who are led to depend on such ineffective products and neglect the hygienic precautions recommended by public health authorities such as isolation, rest, sleep, diet and proper ventilation.

"It is a fact generally accepted by medical authorities, based on world-wide medical experience," added Mr. Campbell, "that there is no known drug or combination of drugs which will prevent or cure influenza. Products labeled as effective for this purpose will unhesitatingly be classed as misbranded within the meaning of the food and drugs act and treated accordingly.

"It may not be amiss to add," said Mr. Campbell, "that manufacturers are usually cautious about putting unwarranted claims upon the labels of their products, knowing that they render themselves liable under the food and drugs act, and those who are inclined to take advertising claims at face value will frequently find that the labels themselves, or the circulars accompanying the packages of the drugs, do not repeat these claims."

# THE JOURNAL

of the

## Kansas Medical Society

W. E. McVEY, M. D. - - Editor

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### THE SHEPPARD-TOWNER-NEWTON BILL

From what can be learned the medical profession in this State has not been unanimous in approval of the Sheppard-Towner Act. This act expires by limitation on June 30. However, Representative Newton of Minnesota, introduced a bill last May which authorizes the appropriation of one million dollars annually for a child welfare extension service in the children's bureau in the Department of Labor. This bill is now before the committee on Interstate and Foreign Commerce.

The bill as presented is as follows:

#### H. R. 14070 A BILL

To provide a Child Welfare Extension Service, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby authorized to be appropriated annually a sum of \$1,000,000 for the purpose of paying the expenses of a Child Welfare Extension Service in the Children's Bureau of the Department of Labor, which shall promote the welfare and hygiene of mothers and children and aid in the reduction of infant and maternal mortality: *Provided*, That of this

amount not to exceed \$50,000 shall be expended by the Children's Bureau in the District of Columbia and that the remainder shall be expended either independently or in co-operation with the State or Territorial agencies responsible for or engaged in the promotion of the health or welfare of children, or through such State or Territorial agencies, with county or municipal agencies engaged in child hygiene or child welfare work: *Provided further*, That the expense of such joint services as shall be undertaken shall be defrayed from the appropriation herein authorized and such co-operative funds as may be voluntarily contributed by State, Territorial, county, and municipal agencies, or child welfare or other local associations or individuals.

SEC. 2. There is hereby created an Advisory Committee of Maternal and Child Welfare for consultation with the Chief of the Children's Bureau relative to the extension work to be carried on under the provisions of this Act. Said committee shall include the Surgeon General of the United States Public Health Service, the United States Commissioner of Education, and the Director of Extension Work of the United States Department of Agriculture, who with the Chief of the Children's Bureau shall be ex officio members of the committee and serve without additional compensation. Five other members of the said committee shall be appointed by the Chief of the Children's Bureau, with the approval of the Secretary of Labor, from representatives of recognized branches of child health and child welfare work not in the regular employment of the Federal Government: *Provided*, That at least one of these representatives shall be a State health officer belonging to the Conference of State and Provincial Health Authorities of North America. The terms of service of the members first appointed shall be so arranged that the term of one member shall expire each year, the subsequent appointments to be for a period of five years. The said members not in the regular employment of the Federal Government shall each receive allowance for actual and necessary traveling expenses and hotel expenses while in conference:



*Provided*, That such expenses shall not be allowed for more than ten days in any one fiscal year. Appointments to fill vacancies occurring in a manner other than as above provided shall be made for the unexpired term of the member whose place has become vacant.

SEC. 3. No portion of any moneys appropriated under the provisions of this Act shall be applied directly or indirectly to the purchase, erection, preservation, or repair of any building or buildings or equipment, or for the purchase of any buildings or lands, nor shall any such moneys be used for the payment of any maternity or infancy pension, stipend, or gratuity.

SEC. 4. No official, agent, or representative of the Children's Bureau shall by virtue of this Act have any right to enter any home over the objection of the owner thereof, or to take charge of any child over the objection of the parents, or either of them, or of the person standing in loco parentis or having custody of such child. Nothing in this Act shall be construed as limiting the power of a parent or guardian or person standing in loco parentis to determine what treatment or correction shall be provided for a child or the agency or agencies to be employed for such purpose.

The Board of Trustees of the American Medical Association voted to voice the opposition of the Association to it, and the Journal of December 1, 1928, gave an analysis of the objectionable features of the bill as follows:

"The differences between the Sheppard-Towner Act and the legislation now proposed indicate the extraordinary acquisitiveness of the pending legislation. The Sheppard-Towner Act is self-limited; the pending bill seeks to establish a permanent policy. The Sheppard-Towner Act recognizes the right of every state to control health activities within its own borders; the pending bill would actually authorize the children's bureau to carry on its activities independent of state agencies. The Sheppard-Towner Act defines the method for the distribution among the states of money appropriated under its authority; the pending bill

leaves to the children's bureau the determination of the amount of federal money that will be spent in any state and the amount that the bureau will demand as the price of the state's participation in the work. The Sheppard-Towner Act requires that every project, before being adopted, be approved by a board consisting of the Surgeon General of the Public Health Service, the chief of the children's bureau and the commissioner of education; the pending bill substitutes for this a board devoid of authority and with advisory functions only, with which the chief of the children's bureau may or may not consult, as she sees fit, and whose advice she may reject or accept at her pleasure. The chief of the children's bureau is to be the chairman of the board and to appoint five of its nine members, while the commissioner of education, the Surgeon General of the Public Health Service and the director of extension work of the Department of Agriculture make up a minority of three.

"The Sheppard-Towner Act and the pending bill have, however, some points in common. Neither of them lays down any line of demarcation between the welfare and hygiene of mothers and children and the welfare and hygiene of the rest of the people, so as to limit operations under the act to a clearly defined field. Neither the Sheppard-Towner Act nor the pending bill contains anything to show why money appropriated for health activities should not be spent under the direction of the United States Public Health Service, which was organized for such work, instead of under a bureau that must duplicate a considerable part of the medical corps already organized and functioning in the Public Health Service if it is to work effectively."

These objections are plainly stated and are plainly evident to one who reads this bill carefully. It is more the principles involved in this bill than the activities of the child welfare bureau that are objectionable. In so far as these activities under the Sheppard-Towner Act are concerned, this state seems to have profited considerably. The funds donated to the

state have enabled our Division of Child Hygiene to increase the scope of its activities to a considerable extent. In other words the funds provided by the Sheppard-Towner Act have simply been expended in the routine work of one department of our State Health Service. At least that is the casual interpretation of the report of this department recently published.

When the Sheppard-Towner Act expires on June 30, unless the Newton bill or some other bill of this kind is passed, or the state makes a much larger appropriation for this work than has heretofore been made, the activities of this division must necessarily be curtailed. If the Newton bill is passed it may probably be anticipated that the funds will continue to be supplied for this work.

It would seem then that one's attitude toward this bill must depend upon whether we are most interested in the particular and immediate concerns of our own State or in the economic principles of nation wide importance. What is the answer?

#### RECIPROCITY AND THE BASIC SCIENCE ACT

Some questions have been asked about the effect of the proposed basic science act upon our reciprocity relations. Section 8 of the proposed bill reads as follows:

SEC. 8. *Reciprocity*—The state board of examiners in the basic sciences may in its discretion waive the examination required by section 7, when proof satisfactory to the board is submitted, showing that the applicant has passed the examination in the basic sciences before a board of examiners in the basic sciences *or a board authorized to issue licenses to practice the healing art, in another state*, when the requirements of that state are, in the opinion of the board, not less than those provided by this Act. The provisions of this section shall apply only to examinations conducted by the boards or

officers of state that grant like exemptions from examinations in the basic sciences to persons granted certificates by the board of this state.

The clause in this section which is italicized seems to cover the point raised. It has been submitted to our attorney, however, and if there is any doubt about it, that section will be so amended as to make it clear and definite. As this section is interpreted, the board is authorized to accept a certificate of examination in the subjects included under basic sciences from a medical examining board in another state. Since all of the state medical examining boards include these subjects in their requirements, a certificate from such a board could be accepted by our basic science board in lieu of a basic science certificate.

It must be understood that this law when passed will not affect anyone now licensed to practice the healing art in this state. Those now licensed will not be required to pass this examination in the basic sciences. It will not affect osteopaths or chiropractors now licensed to practice, but all those applying for licenses after the law goes into effect, doctors of medicine, osteopaths, chiropractors, and every other practitioner of the healing art will be required to prove his knowledge in these subjects before he will be permitted to appear before either of the examining boards for a license. All will be treated alike.

It is hard to understand why osteopaths should oppose this bill, for, unless they have very considerably over-estimated the extent of the course of instruction at colleges of osteopathy, the graduates of these schools should have no trouble in passing examinations in the basic sciences. They have always claimed that the requirements in these schools were equal to (and so far as these subjects are concerned the same) those in medical



schools; and that the same text-books on these particular subjects were used.

Opposition to the bill by chiropractors and other cults shows lack of foresight. Those who are now licensed to practice in the state are exempt, but unless the course of instruction now given in their schools is very much improved their graduates will not be able to pass the examination. So that those who are already in will have the field to themselves. It is a good business proposition for them if they were only able to see it.

In 1900 there were quite a number of men practicing medicine in this state who had never seen the inside of a medical school and a good many more who could not pass any sort of examination, and yet nearly all of these men were active in the legislative campaign for the medical practice act passed in 1901. They were in, they knew they would stay in, and were glad to keep others in their own circumstances out.

### CHIPS

In an article on purpura by Hunter of Glasgow, in the London Lancet, December 29, it is stated that horse serum is used in the treatment of purpura and is given in 25 c. cm. doses on alternate days for three doses. It has been most often given in the form of antistreptococcic serum *and it seems to be as efficient when administered by mouth as subcutaneously.*

Hunter ascribes the occurrence of purpura to an undue permeability of the capillary wall and this he suggests may be the result of an undue sensitization of the capillary wall which determines an abnormal reaction to specific agents. He does not accept the theory that purpura is caused by a deficiency of platelets. He states that he has had under his care patients with purpura that had a much higher platelet count than the figures usually given for such cases. He is inclined to regard the platelet count in the same light as the leucocyte count. Leu-

copenia may be a symptom of disease but not its cause, and the same may apply to thrombopenia in purpura.

Bleyer of St. Louis reports some observations on a group of children with enuresis in which there were 129 boys and 123 girls. None of the more common causative factors to which the condition is usually ascribed were found to bear any causative relation whatever. Enlarged or diseased tonsils and adenoids, eye strain, preputial abnormalities, small meatus, vaginitis, pyelitis, defective posture, malnutrition, neurotic constitution, sex, were all apparently ruled out as having any effect on these cases. The trouble seems to lie in a disturbance of the physiologic function of the bladder. Atropine and massage of the bladder were the only measures found to be effective in the treatment of true enuresis.

By some experimental work conducted by Leslie-Roberts, British Journal of Dermatology, August, 1928, it is shown that pure synthetic salicylic acid can be transported through the epidermis into the connective tissue and thence into the blood stream. The colloids of the connective tissue absorb the drug and liberate it gradually into the blood stream. It is largely excreted by the kidneys and the amount excreted can be estimated by colorimetric examination of the urine. Petroleum, alcohol and water were used as solvents for the salicylic acid, but petroleum appeared to be preferable.

In a paper published in the December number of Archives of Dermatology and Syphilis, Dr. Richard L. Sutton, reports his experience with liver diet in acne and furunculosis. He states that the most satisfactory results in acne were secured in those patients presenting deep-seated lesions of indolent type, so common in patients whose skins are pale, moist and flabby and lacking in both tonicity and color. An extract of liver was used and an amount equaling one-fourth pound of liver was administered twice daily for twelve days. This was followed by a rest period of one or two weeks and then repeated if necessary. He found this

method most satisfactory in chronic furunculosis and in acne vulgaris.

In the Archives of Neurology and Psychiatry, January, 1929, is an article on Pathology of Paresis by Ferraro in which he reports his studies of twenty-nine brains from patients treated with malaria who died at various intervals after inoculation with malaria—from five days to twenty-six months. Among the conclusions arrived at from these studies were: that treatment with malaria influences favorably the pathologic process of paresis and that the beneficial influence of malaria is chiefly exhibited in its effects on the inflammatory reactions which are definitely and constantly lessened, independent of the clinical outcome of the treatment. There is a reduction in the exudate and a reduction of the new blood vessels. Influence on parenchymatous changes is less definite. There is no parallelism between the absorption of the exudate and the clinical course. It does not seem possible to establish a comparison between the intensity of the process in general prior to the malaria, and the effect which the treatment has on it. Neither gummas nor granulomas of the tertiary syphilitic type are generally found in patients treated with malaria. No appreciable aggravation of the parietic process in the early stages of treatment was observed. The only pathologic sign attributable to malaria itself was a swelling of the epithelium of the small blood vessels.

In an article on aneurysms of cerebral vessels, published in Archives of Neurology and Psychiatry, January, 1929, Sands suggests that in a person suffering from hypertension or arteriosclerosis, or from a general or local infection, especially infectious endocarditis, the sudden onset of headache, nausea, vomiting, unconsciousness and convulsions, and the presence of cervical rigidity and Kernig sign, disturbance in pupillary reflexes, blurring of the disks, papilledema, diplopia, paralysis of the cranial nerves, disturbance of deep reflexes and the presence of bloody spinal fluid, point to a ruptured intracranial aneurysm, and

absolute rest in bed is the most important therapeutic measure.

## SOCIETIES

### LABETTE COUNTY MEDICAL SOCIETY

The Labette County Medical Society has enjoyed a very good year in all of its meetings, and has had some very able papers before the society for discussion.

The Labette County Medical Society wishes to thank the Kansas School of Medicine for their thorough co-operation in supplying this society with the very able men from the school.

January—Dr. Wayne P. Rupe, St. Louis, Missouri.

1. Pneumonias in children.

February—Dr. L. P. Engle, Kansas School of Medicine.

1. Goiter problems and use of iodine.

Dr. Marchbanks, Pittsburg, Kansas.

1. Use of electro-cardiograph.

March—Dr. I. M. Isenberger, Kansas School of Medicine.

1. Action of digitalis and its allies.

April—Dr. J. E. Walker, Kansas School of Medicine.

1. Anemias.

May—Dr. H. Schneideman, Kansas School of Medicine.

1. Various skin diseases.

2. Treatment of senile pruritus.

June—Dr. R. D. Ireland, Kansas School of Medicine.

1. Results of treatment with lead in malignancy.

2. Sterility in women.

July and August—No meeting.

September—Dr. N. F. Ockerblad, Kansas School of Medicine.

1. Diagnostic problems in urology.

October—Dr. E. T. Gibson, Kansas School of Medicine.

1. Various diseases with neurologic sequels or brain changes.

November—Dr. E. W. Boardman, Parsons, Kan.

1. Auto-intoxication.

2. Auto-elimination.

Dr. O. A. Bandel, Parsons, Kansas.

1. Importance of early recognition of hebephrenia.

December—Dr. J. Rotter, Parsons, Kansas.



1. Discussion of surgical notes collected at post graduate course at Kansas Medical School in November.  
Dr. O. E. Stevenson, Oswego, Kan.
1. Discussion of medical notes collected in Endocrinology at post graduate course in Medical School in November.
2. Annual election of officers for the coming year.  
President, O. E. Stevenson, Oswego.  
Vice President, R. L. Von Trebra, Chetopa.  
Secretary-Treasurer, J. T. Naramore, Parsons.  
Delegate, C. N. Petty, Altamont.  
Chairman of Public Relations, J. D. Pace, Parsons.  
J. T. NARAMORE, Secretary.

## CLAY COUNTY MEDICAL SOCIETY

The January meeting of the Clay County Medical Society was held January 16th at the Country Club in conjunction with the Clay County Dental Society. The ladies were also present at this meeting. The first number on the program was a banquet enjoyed by everyone present. In spite of bad road conditions there was a good attendance of doctors, dentists and their ladies. The guest of honor and speaker of the evening was Dr. Logan Clendening of Kansas City, Mo., who gave a splendid lecture on the subject "The Future of Medical Practice." Other visiting doctors were Doctors Anderson and Porter of Concordia, Kansas.

X. OLSEN, Secretary.

## SALINE COUNTY SOCIETY

The last monthly meeting of the Saline County Medical Society, was held at the Salina Country Club on December 12, 1928. All members of the society and their wives were hosts of Dr. E. J. Lutz, the retiring president. A sumptuous turkey banquet was enjoyed by all. A standing vote of thanks was given Dr. Lutz for his generosity and good will.

The following members were elected to hold the major offices for the following year, 1929: President, Dr. George Seitz; Vice President, Dr. E. M. Sutton; Secre-

tary, Dr. W. R. Dillingham; Treasurer, Dr. H. E. Neptune.

No papers were read at this meeting, but following the election of officers the evening was spent by the members and their wives playing bridge.

LEO J. SCHAEFER, Secretary.

## MEADE-SEWARD COUNTY SOCIETY

The Meade-Seward County Medical Society met Thursday evening, January 17, 1929. The meeting was called to order by Dr. George S. Smith, the vice president, the president not being present.

Election of officers: President, Dr. C. O. Mays; Vice President, Dr. E. J. McCreight; Secretary-Treasurer, Dr. E. Trekell; Delegate to State meeting, Dr. C. O. Mays.

Dues were paid for 1929. Resolutions passed by society to be sent to State Senate and House members from this district. Adjournment to next meeting, last Thursday in April.

## LEAVENWORTH COUNTY SOCIETY

Resolutions adopted at a called meeting of the Leavenworth County Medical Society, January 24, 1929:

Whereas, Our dear friend and brother physician has laid down his earthly burdens and is at rest,

Be it resolved: That in the death of Dr. J. L. Everhardy, the medical profession has lost a most valuable member; and the community has lost an honorable upright citizen;

That we extend our deepest sympathy to the bereaved family, and to the host of friends who will sadly miss him.

Be it further resolved, That a copy of these resolutions be transmitted to the family, to the city press, and to the State and National Medical Societies.

By order of the Leavenworth County Medical Society.

H. J. STACEY, Secretary pro-tem.

## WILSON COUNTY SOCIETY

The Wilson County Medical Society did not hold its regular meeting in December on account of the "flu."

Regular meeting held January 14 at Loether Hotel at Fredonia. Election of

officers as follows: President, Dr. B. P. Smith, Neodesha; Vice President, Dr. F. M. Wiley, Fredonia; Secretary-Treasurer, Dr. E. C. Duncan, Fredonia; Delegate to State meeting at Salina, Dr. J. W. McGuire, and Dr. E. C. Duncan, alternate. Dr. F. M. Wiley elected to read paper at State meeting; censors appointed, Drs. J. L. Moorehead, W. H. Addington, A. C. Flack; Dr. F. M. Wiley, necrology.

Motion by Wiley that Drs. McGuire and Young be named a committee to consult with the county superintendent regarding inspection of rural schools in this county, carried.

The program consisted of short talks by Dr. A. C. Flack on school inspection—the speaker prepared a blank 16 years ago which is still used in the Fredonia schools.

Dr. Young spoke on Malta fever—important to know about it, from sources other than goats.

Dr. McGuire told of new method of handling infected houses—no more fumigation—seems satisfactory.

Dr. Sharpe related all known facts about tularaemia—more general knowledge should be had of this disease.

Adjourned to meet in Neodesha February 12 when Dr. Loveland will address the society on tuberculosis.

E. C. DUNCAN, Secretary.

#### BOURBON COUNTY MEDICAL SOCIETY

Bourbon County Medical Society met in regular session January 21, 1929. Dr. W. S. Gooch, the new president, spoke of his appreciation of having the honor of presidency bestowed upon him and asked that more interest be shown in the society.

Dr. W. T. Wilkening presented a case of a boy 15 years old who two years ago ran a pitch fork into his left foot. Five weeks later developed pain over sacro-iliac region and then reported at his office. Patient was sent to the hospital. Then followed spinal meningitis, pneumonia on right side, abscesses of the sacro-iliaes and left thigh and finally osteomyelitis of left ulna. Weight before injury was 143 pounds, during illness 85 pounds, present weight 105 pounds.

His second case was that of a woman 55 years, married, no pregnancy, complaining of nocturia for two months, with pain in the left lumbar region. Patient hospitalized and tests and x-ray were made, resulting in the diagnosis of hydronephrosis with calculi. At operation the left kidney was removed which confirmed the diagnosis. The specimen was passed around showing two large and numerous small calculi.

Dr. J. R. Prichard presented some x-ray pictures showing the dislocation of the semi-lunar bone of the wrist, other dislocations and fracture of the clavicle. Discussion followed after which the meeting adjourned.

R. Y. STROHM, Secretary.

R

#### DEATHS

DeWitt C. Tyler, Clifton, aged 78, died December 3, 1928, at St. Mary's Hospital, Kansas City, Missouri. He graduated from Rush Medical College in 1881.

John T. Holeman, Garland, aged 81, died November 30, 1928, of cerebral hemorrhage. He graduated from Medical Department University of Louisville in 1892.

M. R. Mitchell, Avon Park, Florida, aged 93, died at his home in Florida recently. He graduated from Ohio Medical College in 1868. He practiced in Topeka from 1875 until 1917 when he moved to Florida.

Ray Marshall Timney, Norton, aged 53, died November 24, 1928, of carcinoma of the stomach. He graduated from the Kansas City Medical College, Kansas City, Mo., in 1903. He was a member of the society.

Jacob L. Everhardy, Leavenworth, aged 54, died January 23, 1929. He graduated from the University Medical College, Kansas City, Mo., in 1897. He was a member of the society and had been one of its vice presidents.

A. Clayton Zimmerman, Perry, aged 54, died in St. Francis Hospital, Topeka, December 21. He graduated from the University Medical College, Kansas City, Mo., in 1897 and had practiced at Perry since that time.



William C. Bower, Topeka, Kansas, aged 67, died December 13, 1928, of nephritis. He graduated from Rush Medical College in 1886.

— R —

### MEDICAL SCHOOL NOTES

Dean H. R. Wahl was an official guest of the College of Medicine of the State University of Iowa at the dedication of their new medical plant on November 15 to 17.

The following men have recently been appointed on the faculty of the School of Medicine and the staff of the Bell Memorial Hospital: Dr. Kenneth Davis, '27; Dr. Rex Dively, '17; Dr. Eugene Parsons, Dr. Karl A. Memminger, Dr. Oscar W. Davidson, '26; Dr. Forrest N. Anderson, '21; Dr. B. Landis Elliott, Dr. Paul N. Johnston, Dr. Robert Swisher, Dr. Lawrence E. Wood, '26; Dr. Charles Grabske, '27; Dr. Paul Frick.

During the past summer volunteer junior medical students were assigned to general practitioners over the state to act as apprentices. The plan was quite successful, both from the standpoint of the physicians as well as the students.

Dr. Karl A. Memminger, lecturer in the Department of Psychiatry, attended the fourteenth annual meeting of the Medical and Surgical Association of the Southwest at Albuquerque on November 9, and addressed the members on "A Psychiatric Study of Murder." Dr. Memminger is secretary-treasurer of the Central Neuropsychiatric Association.

Dr. F. C. Neff, professor of pediatrics, was elected president for 1930 of the Jackson County Medical Society. Doctor Neff will serve as vice president this year.

Dr. Russell L. Haden, professor of experimental medicine, attended the meeting of the Central States Clinical Research Society in Chicago, November 22, 23.

Dr. J. H. Danglade, '26, who is located at the Johns Hopkins Hospital, visited at the Bell Memorial Hospital, December 20.

Dr. Frank Teachenor was elected secretary of the Western Surgical Association at its meeting in Chicago, December 15.

Dr. Thomas G. Orr read a paper on "Enterostomy in General Peritonitis" at the meeting of the Western Surgical Association in Chicago, December 15.

Dr. W. W. Summerville, class of '27, recently visited the Bell Memorial Hospital. Dr. Summerville is now located at Lakeside Hospital, Cleveland, Ohio.

Dr. Thomas G. Orr visited Oklahoma City, December 12, where he discussed surgical clinics for the University of Oklahoma Extension Course in Surgery.

Dr. Walter R. Carey, '23, is practicing in Pittsburg, Pennsylvania.

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### BOOKS

*Pediatrics for the General Practitioner* by Harry Monroe McClanahan, A.M., M.D., professor of pediatrics emeritus, University of Nebraska. Published by J. B. Lippincott Company, Philadelphia.

This book was prepared especially for the general practitioner because the author believes that the great majority of sick children first come under his care, and that only the exceptional cases reach the specialist. He has endeavored to make this book of practical value and dwells particularly upon diagnosis and treatment. It is well illustrated.

*Compend of Diseases of the Skin* by Jay Frank Schamberg, A.B., M.D., professor of dermatology and syphilology, graduate School of Medicine University of Pennsylvania, etc. Published by P. Blakiston's Son & Company, Philadelphia. Price \$2.00.

These little books come in handy sometimes. The descriptions of the various skin lesions are of course very concise but sufficiently clear and definite to supply the needs of a busy man—particularly to refresh his memory. The methods of treatment are fully described. Very excellent illustrations aid in making the descriptions of the various lesions clear to the reader.

*International Clinics*, a quarterly of illustrated clinical lectures and especially prepared original articles. Edited by Henry W. Cattell, A.M., M.D., with the collaboration of numerous others. Vol. IV, thirty-eighth series, 1928. Published by J. B. Lippincott Company, Philadelphia.

This volume contains first a symposium on aging and old age in which there is a paper on arthritis deformans of the hip by Prof. Vittorio Putti, a paper on certain phases of angina pectoris by Harlow Brooks, a paper on digestive problems in old age by T. R. Brown, and a paper by L. R. Williams on the postponement of the individual processes of aging. In the department of diagnosis and treatment there are several excellent papers, two of these deal with diagnosis of appendicitis. Then there are some papers on physiotherapy. Under the department of medicine there are some papers that are interesting as well as instructive. Under surgery, Higgins reports eighteen cases of horseshoe kidney, Conklin describes a congenital atresia of the bile ducts. Hayman describes the surgical treatment of otogenic sinus thrombosis. There are also papers on dermatology, medical history and medical biography.

The Surgical Clinics of North America (Issued serially one number every other month.) Volume 8, No. 6. (Pacific Coast Surgical Association Number—December, 1928) 277 pages with 118 illustrations, including complete index to volume 8. Per clinic year (February, 1928, to December, 1928.) Paper, \$12.00; Cloth, \$16.00. W. B. Saunders Company, Philadelphia and London.

The first article in this number of the Surgical Clinics is by Gilcreest on John Hunter, the founder of scientific surgery. Lobinger describes pericholecystic adhesions. Terry, Searls and Willzner describe a modified thyroidectomy for preserving the parathyroids and recurrent nerves. Rixford discusses lesions produced by forced abduction of the shoulder. Brown presents a case of tubal twin pregnancy and one of impacted stone in lower ureter. Osborne describes the treatment of carcinoma of the sigmoid colon. Cecil reports operations on male hypospadias and epispadias. Else discusses the prevention of recurrent goiter. Holman describes arteriovenous aneurysm, Lockwood discusses abscess of the lung. Phillips describes a diverticulitis of the sigmoid. Sherry presents some cases of benign obstruction of intestine. Swift presents three cases of spinal cord tumors. These are just a few of the very excellent reports to be found in the December clinics.

The Medical Clinics of North America. (Issued serially, one number every other month.) Volume 12, Number 4. (Philadelphia Number, January, 1929.) Octavo of 297 pages with 30 illustrations. Per clinic year, July, 1928, to May, 1929. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1929.

McCrae discussed the early diagnosis of empyema in lobar pneumonia. Riesman discusses disease of the coronary arteries. Norris and Farley discuss myeloid leukemia, Perry Pepper gives a review of our knowledge of the anemias of pregnancy. Then there is a clinical lecture on hyperacidity by Rehfuess. Stricker's subject is the toxic mental reactions. Talley's subject is optimism in prognosis in cardiovascular disease. Mohler reports some cases of tachycardia and hyperthyroidism. Jump discusses jaundice. Miller gives an explanation of gastric hemorrhage in splenic anemia. Pelouze discusses the role of the prostate in focal infections. Keeler describes endocarditis associated with arterial thrombosis. Klein reports on agranulocytic angina. Kern gives the causes of failure in the treatment of bronchial asthma. Schnabel presents the clinical evidence justifying a cardiac diagnosis. There are numerous other very interesting subjects discussed in this number of the clinics.

History of Medicine, with Medical Chronology, Suggestions for Study and Bibliographic Data by Fielding H. Garrison, M.D., Lt., Colonel, Medical Corps, U. S. Army, Surgeon-General's Office, Washington, D. C. Fourth edition, revised and enlarged. Octavo of 996 pages, with 286 portraits and other illustrations. W. B. Saunders Company, Philadelphia and London, 1929. Cloth, \$12.00 net.

The fourth edition of Garrison's History of Medicine has been revised and much additional matter has been added. There is now a very interesting section on prehistoric medicine. The various new departures in recent medicine are presented. In regard to these the author says: "all attempts at ultimate appraisals of recent happenings as finalities have been futile and valueless, while some of the great expectations entertained of our vaunted post-bellum period are already 'sad with sick leavings of the sterile sea'."

On account of the large amount of material some of it has been set in smaller type.



### Influenza Hangs On

While the influenza epidemic, which had its start on the Pacific coast and swept eastward, has been characterized as "mild" by health authorities, many serious complications have followed in its path. Deaths from pneumonia have exceeded previous years and severe colds have persisted even after the epidemic had apparently been checked.

In this emergency physicians report excellent results from the use of Abbott remedies. Among the most widely used are Calcidin, Ephedrine, Ephedrine Butesin Spray, Metaphedrin, M. Catarrhalis Combined Bacterin, Metaphen, Neonol, Sodoxylin and Abbott's Saline Laxative.

A special influenza circular has been prepared by the Abbott Laboratories, North Chicago, Ill., which will be sent on request.

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### Parke, Davis & Company Appoints General Manager

Dr. A. William Lescohier has been appointed general manager of Parke, Davis & Company, according to an announcement made public on January 10 by Oscar W. Smith, president of the company. Dr. Lescohier has been connected with the company for the past twenty years and has most recently occupied the position of assistant to the president. After graduation from the Detroit College of Medicine in 1909 he entered the company's employ as a member of its scientific research staff. In 1918 he was placed in charge of the production of serums, vaccines, antitoxins, and other biological products.

In 1925 he became director of the Department of Experimental Medicine, and in that capacity was in constant touch with physicians and scientific workers in the leading hospitals and medical colleges of the country.

Dr. Lescohier is a fellow of the American Medical Association and belongs to the American Therapeutic Society and other scientific organizations.

In professional circles the appointment of a physician and research scientist to this important post will doubtless be noted with interest, as the development and manufacture of highly scientific

products for physicians' use has constituted the most important division of the company's business ever since its founding, more than sixty years ago.

Parke, Davis & Company are the world's largest makers of pharmaceutical and biological products, with home offices and laboratories in Detroit, Michigan, and with branch laboratories in a number of foreign countries.

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Parke, Davis & Company announces the appointment of Dr. Louis Klein as promotion manager and Mr. Ralph G. Sickels as advertising manager. Both men have been connected with the company for a number of years, Doctor Klein as manager of the department of medical service, and Mr. Sickels as a member of the advertising staff.

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### Annual Meeting of the American Association for the Study of Goiter at Dayton

The annual meeting of the American Association for the Study of Goiter will be held this year at Dayton, Ohio, on March 25, 26 and 27. The primary object of this association is to bring together each year men who are especially interested in the study of goiter and its associated problems members of state and provincial medical societies are eligible and cordially invited to participate as attending members.

The 1928 meeting, which was held at Denver, was a decided success. Professor B. Breitner of the von Eiselsberg Clinic of Vienna, and Dr. Gulbrand Lunde, professor of biochemistry of Oslo, Norway, were the foreign guest speakers. Drs. H. S. Plummer, S. F. Haines, J. deF. Pemberton and William Boothby of Mayo Clinic held clinics and presented papers. Among the other contributors to the program were W. Blair Mosser of the University of Pennsylvania; W. H. Cole, N. A. Womack and S. M. Gray of Washington University, St. Louis; A. E. Hertzler, Halstead, Kansas; J. L. DeCourcy, Cincinnati; Allen Graham, Cleveland; H. M. Clute of Lahey Clinic, Boston; J. Tate Mason of Mason Clinic, Seattle; and Willard O. and P. K. Thompson of the Massachusetts General Hospital Thyroid Clinic.

The first day of the Dayton meeting will be given over to diagnostic clinics in the morning and several short papers during the afternoon, chiefly concerned with recent experimental work. On the second day, operative clinics will be held at the Miami Valley Hospital, St. Elizabeth's Hospital and at the Soldiers' Home Hospital. The afternoon of the second day and the morning and afternoon of the third day will be given over to the presentation and discussion of scientific papers.

The headquarters will be at the Hotel Miami. Dr. William A. Ewing is president of the Montgomery County Medical Society under whose auspices the meeting is to be held. Dr. E. M. Huston is the general chairman of the committee on arrangements. Dr. H. C. Haning is chairman of the hotel committee. All communications in regard to hotel reservations should be addressed to Dr. Haning at the Reibold Bldg., Dayton, Ohio.

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### **Food Adulteration Much Less, Say Federal Officials**

Gross and flagrant adulteration in many food products was widely prevalent before the enactment of Federal and State food control laws, said officials of the Food, Drug and Insecticide Administration, of the United States Department of Agriculture, when their attention was called recently to a reprinted press report that had been originally published 50 years ago.

Instances of adulteration cited in the press reports include, among others, the molding of chicory and of clay into the form of coffee berries colored and flavored to represent coffee; white stone ground into a fine powder and used to adulterate soda, sugar, and flour; "terra alba" or white earth for use in confectionery and cream of tartar; confectionery coloring material containing lead, mercury, arsenic and copper; cayenne pepper adulterated with red lead; mustard with chromate of lead; curry powder with red lead; vinegar with sulphuric acid, arsenic, and corrosive sublimate; milk adulterated with water and artificial milk made synthetically which did not

contain one drop of the genuine article.

It can not now be determined, say the officials, to what extent these and other form of adulteration mentioned in the old press article prevailed throughout the food industry fifty years ago, but official analyses made prior to and since the enactment of the food and drugs act in 1906 confirm some, if not all, of the forms of adulteration reported as being prevalent in 1879.

Imitation coffee berries made synthetically without even a trace of real coffee are among the official samples collected before the enactment of the food and drugs act, but still retained by the Food, Drug and Insecticide Administration as an exhibit of what the cupidity of some few manufacturers would lead them to do when not restrained by the fear of the penalties imposed by food control laws. Artificially colored ground sawdust used to adulterate cayenne pepper is also among the exhibits illustrating the deplorable condition in the food trades in by-gone days.

Fortunately for the consumers and the vast number of honest manufacturers who put out good products, most of those gross and flagrant forms of adulteration no longer are practiced, though some may occasionally occur in isolated instances, say the food officials. The marked improvement in the quality, wholesomeness and truthful labeling of food products that has been brought about in the meantime, they say, is due principally to the enactment and enforcement of Federal and State pure food laws, and to the increasing realization on the part of manufacturers that it is good business to put out only sound, wholesome products truthfully labeled.

The exposure of the revolting conditions in food factories and shops, and the flagrant forms of gross adulteration prevalent twenty years ago, when the food law was passed, made sensational news stories that were spread everywhere in glaring headlines on the front pages. The spectacular contests between food officials and manufacturers who refused to clean up their factories or abandon profitable practices also resulted in widespread publicity. As these sensa-



tional features became less and less frequent, and the food industries to a greater and greater degree corrected their products and practices to comply with food control laws as clarified by court decisions and extensive scientific investigations, there has been a marked decrease in the news value of food control operations.

Federal and State food officials, however, have continued to exercise systematic and effective supervision of the operations and the products of food factories, and although their work now is not so sensational it is of no less concern to the health of the consumer and to the economic welfare of the nation. While the great majority of food concerns today put out products fully complying with all food laws, because the proprietors are honest and desire to put out good products, there is always a small minority in every industry who will take advantage of any relaxed vigilance on the part of food officials to make a quick, illegitimate profit by adulteration. That constant vigilance by food officials is still necessary is evidenced by the fact that hundreds of seizures and prosecutions are made every year because of the shipment within the jurisdiction of the food and drugs act of adulterated or misbranded foods. The adulteration found today affects the pocketbook more often than the health, consisting principally of the substitution of a cheap substance for some normal ingredient that costs more. Only occasionally is the public health jeopardized by a type of adulteration that renders the product injurious to health, but these occasions require prompt action to insure the protection contemplated by food laws.

Considering the enormous increase in the volume of manufactured foods during the last 20 years, however, the proportion found adulterated today is very small, say the food officials. Federal and State food officials are constantly on the alert to restrain that small portion of manufacturers who will still take the chance to cheat, or to jeopardize the health of consumers, by adulterating food products, whether the adulteration results from carelessness or from deliber-

ate intent. As the result of effective enforcement of Federal and State food laws during the last 20 years, the food products sold on the market today are freer from adulteration and misbranding than ever before.

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### **Anatoxin and Diphtheria Toxoid**

Anatoxin is diphtheria toxin so modified by the addition of formaldehyde and the application of heat that the toxic properties are greatly reduced while the antigenic properties are retained. The product is prepared and recommended for use in diphtheria prophylaxis by Ramon of the Pasteur Institute, Paris France. American manufacturers supply a product, diphtheria toxoid, which is prepared by the addition of formaldehyde to diphtheria toxin and the application of heat. This material is tested for antigenic efficiency by a guinea-pig protection test. It is essentially the same as anatoxin except for the method of testing for potency. The diphtheria toxoid of the H. K. Mulford Co. and E. R. Squibb & Sons has been accepted for New and Nonofficial Remedies. (J.A.M.A., Dec. 22, '28).

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### **The Nature of Pepsin**

Most of the efforts to "purify" enzymes have resulted in the separation of products bearing the characteristics of proteins. This has been conspicuously true of the amylolytic group. It appears that the higher the degree of purification of the amylases, the more nearly do they approach the proteins in composition and properties. Not long ago it was shown that pepsin of high proteolytic power can be obtained by isoelectric precipitation. At pH 2.5 products showing a proteolytic potency of 1:65,000 were secured. The analyses of these products are characteristic of a protein. All fractions still possess proteolytic properties until they reach the stage when they are sufficiently small to diffuse through parchment or animal membranes. The gradual decrease of proteolytic activity of the enzyme itself is paralleled by loss of its complex protein characteristics. (J.A.M.A., Dec. 29, '28).

### Myocardial Disease and Its Gastric Masquerades

David Riesman, Philadelphia (J.A.M.A., Nov. 17, 1928), points out that the gastro-intestinal tract is so intimately connected with the heart through the vague nerve that reciprocal disturbances are not surprising. It is perhaps easy to understand why gaseous distention of the stomach should cause palpitation and precordial distress. Conversely, the heart may produce symptoms in the region of the stomach or the upper part of the abdomen. Of these symptoms, those resulting from passive congestion of the stomach in states of decompensation are comparatively easy of explanation. Others are very obscure. In one patient the myocardial weakness expressed itself under the guise of loss of appetite, gaseous distention and pressure, marked fatigability, and shortness of breath which was not at first mentioned. If angina pectoris and coronary obstruction are included under the general head of myocardial disease, the number of cases of gastro-intestinal or abdominal type is greatly increased. Such inclusion is entirely proper, for it is clinically often impossible to separate chronic myocardial disease from disease of the blood vessels of the heart; in fact, many cases of the former are directly traceable to blood starvation, the result of sclerosis of the coronary arteries. Coronary disease may cause gastric symptoms of a pronounced character, the most extreme mimicry being produced by acute coronary obstruction. This may simulate perforation of a peptic ulcer, biliary colic, acute pancreatitis, or intestinal obstruction. Complete occlusion of the coronary arteries may produce gastric or other abdominal symptoms but a nonobliterative endarteritis is also capable of producing these symptoms. In this type of case the outstanding features are fatigability on slight exertion, some shortness of breath, and a sense of oppression in the precordial area or in the epigastrium and frequently distention with gas. It is the last that often dominates the picture and gives the impression of a primary gastric disease. Persistent vomiting may be the chief symptom of cardiac decompensation and may readily be interpreted as

due to primary gastric disease. Pericarditis in some instances causes reference of pain to the epigastrium and to the right upper quadrant. Sometimes the pericarditis is part of a coronary occlusion syndrome and the abdominal signs are due to the underlying thrombosis rather than to the pericarditis; but a rheumatic pericarditis without coronary involvement may act in the same manner. The two diseases may coexist.

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### Boullion Cubes

These do not contain a great deal of nourishment. A four ounce (120 cc.) portion of liquid boullion contains approximately 2.5 Gm. of protein, and no fat or carbohydrate, and has a fuel value of 13 calories. The only relation of boullion cubes to food lies in their stimulating effect on the gastric juices. (J.A.M.A., December 22, '28).

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### REPRINTS

Reprints of original articles will be furnished the authors at the following rates, if the order for same is received within fifteen days after the Journal is mailed. These prices are based on the number of pages of the Journal the article occupies:

Three pages or less, first 100, \$9.00; additional 100's, \$2.50. Four pages, \$12.00; add. 100's, \$3.00. Five pages, \$15.00; add. 100's, \$4.00. Six pages, \$18.00; add. 100's, \$5.00. Seven pages, \$21.00; add. 100's, \$6.00. Eight pages, \$24.00; add. 100's, \$7.00.

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### The Use of Digitalis

P. T. BOHAN, M.D., Kansas City, Mo.

Read before the Kansas Medical Society at its Annual Meeting, May 8-10, 1928, at Wichita, Kansas.

The use of digitalis in medicine was first introduced by Withering in 1785.

Cushny states in his latest book that so little progress was made in the knowledge of the use of digitalis during the nineteenth century that an article on this subject written in 1810 could have been quoted as representing the general view in 1900. The main reason for this, Cushny believes, was the fact that during the nineteenth century morbid anatomy dominated the view point in medicine.

During this epoch, medicine was on the basis of structural change and therapeutic nihilism was thought to be a sign of scientific progress. The conception of heart disease was the diagnosis of valvular defects, affections of the pericardium and degeneration of the heart muscle—pathological conditions naturally unaltered by drugs. Only about thirty years ago it became recognized—solely through the papers of Mackenzie—that disturbance of function of the myocardium was an important factor in all cases of heart failure and that the diagnosis of the disturbance of function was equally as important as the diagnosis of the pathological changes.

To understand how digitalis may modify the function of the myocardium requires knowledge of its effect on the fundamental properties of the heart muscle. The researches of Gaskell and Engelmann showed that the heart muscle contains five fundamental properties. Without an impairment in the function in one or more of these properties, heart failure cannot exist.

The effect of digitalis on the heart is due to its increasing the function of some of the properties, while others are de-

pressed: it being an established fact that the properties of tonicity and irritability are increased while conductivity and contractility—especially if large doses are given—are depressed. The effect on the property of rhythmicity depends on whether an arrhythmia exists. Unless these facts are understood, the intelligent use of digitalis is impossible.

#### MODE OF ACTION

Digitalis influences the function of the heart in part by stimulating the vagus and in part by direct action on the heart muscle. It is deposited in the muscle cells and exists in a chemical or physical state, just as corrosive sublimate combines with the protein of microbes. The fixation of digitalis in the muscle cells explains its delayed action and, also, the continued effect for two or three weeks after its administration is discontinued.

The term *digitalization* is used to indicate the therapeutic effects or the maximal safe dosage without toxic effects.

In certain types of heart failure, such as fibrillation, direct results as shown by slowing of the rate, relief of dyspnoea and diuresis may be obtained in nearly all cases, while other types, such as a dilated heart with a normal rhythm, the therapeutic effect is not always a safe criterion to dosage.

#### EVIDENCE OF TOXIC DOSES

These may be either cardiac or general.

##### 1. Cardiac

- a. Coupling of the beats due to extrasystoles or, even, an occasional extrasystole.
- b. Impaired conduction causing heart block, recognized clinically by slowing of the rate or fairly regularly missed beats, and graphically by a prolonged P-R interval.
- c. Phasic arrhythmia, paroxysmal tachycardia, or auricular flutter.

d. Ventricular tachycardia, which may cause ventricular fibrillation and sudden death. (Reid reports a number of deaths due to over dosage. I have had a few in my own practice.)

## 2. General Symptoms

(These may precede, accompany or occur without any cardiac signs whatever.)

- a. Loss of appetite, nausea and vomiting. The stomach symptoms are produced by the action of digitalis on the heart and not by irritating the gastric mucous membrane. The gastric symptoms are fairly constant in toxic doses—but they may be absent.
- b. Nervous system. Headache is fairly common. Such symptoms as amblyopia, yellow vision, mental confusion, delirium and aphasia are by no means rare—especially in patients advanced in years, and may be the only signs of toxic doses. Two patients with such symptoms were recently seen.

The types of heart failure where digitalis is definitely indicated are as follows:

### I. Auricular Fibrillation:

The cardinal indication for the exhibition of digitalis is auricular fibrillation. Its effect in this condition is due solely to its depressing the property of conductivity—thus lessening the heart rate. The bundle of His is especially susceptible to the actions of digitalis in auricular fibrillation and the ventricular rate may be halved or more. The whole effect of digitalis in fibrillation can be attributed to the reduction in heart rate. The fatigue of the ventricles is relieved only by reduction in the rate and the rate is the only gauge to dosage. If it were not for its specific action in auricular fibrillation, digitalis would probably never be known as a heart remedy. Withering's first cases were undoubtedly fibrillation cases.

A mistake commonly made is either to confuse all types of irregularity with fibrillation or to give digitalis for all

types of irregularity. Everyone who treats heart cases should be able to identify this form of arrhythmia in nearly all instances by the rapid and persistently irregular pulse. The two most important facts in the treatment of this condition are (1) to give enough of the drug to bring the rate down to the range of normal and (2) never to discontinue it for weeks or even many days at a time.

### II. Auricular Flutter:

This is a disturbance of rhythm where the auricles beat forcibly and rapidly, 240 to 400 times a minute, with the ventricular rate half or less, and usually regular. This is a rare form of arrhythmia, being found in less than 5 per cent of cases. If this type of arrhythmia cannot be controlled with quinidine, digitalis is indicated.

### I. Impaired Tonicity:

When "congestive heart failure" is present, digitalis is indicated. This type of heart failure is what was formerly called broken compensation, a term as good if not better than the newer one—congestive failure. They both mean dropsy, swollen liver, cyanosis and so on due to depression of tonicity. When the property of tonicity is intact, dropsy cannot occur. Digitalis increases the property of tonicity, although improvement in a dilated heart with a normal rhythm cannot be expected in all cases.

There is no commoner or more serious mistake in medicine than to consider a slowing of the pulse a reliable index to digitalis dosage when the pulse is regular. A patient with such a cardiac condition may be killed with digitalis without reducing the heart rate one beat a minute. In children with rheumatic heart disease, or, in cases of mitral stenosis there may be some lessening of the rate when the rhythm is normal. With these exceptions lessening of the rate with digitalis seldom occurs when the heart is regular. In fact, tachycardia may develop from toxic doses. Even gastrointestinal disturbances may be absent. Only when fibrillation is present is slowing of the heart rate a reliable guide in dosage.



## CONTRA INDICATIONS FOR THE USE OF DIGITALIS

### 1. Increased Irritability

#### a. Extrasystoles:

The evidence that digitalis increases the property of irritability seems conclusive. One of the commonest cardiac signs of toxic doses of digitalis is a frequent, or, even, an occasional extrasystole. If the irritability of the heart muscle is such that spontaneous extrasystoles are being formed, the action of digitalis obviously would be to increase the irregularity.

#### b. Paroxysmal Tachycardia:

Although digitalis has been used to arrest the paroxysm, or even prevent the recurrence of paroxysmal tachycardia, on the theory of vagus stimulation, the results for obvious reasons have been unsatisfactory and disappointing. Both paroxysmal tachycardia and extrasystoles are produced by digitalis. Therefore, the proper remedy for these irregularities is an agent that will lessen the irritability—such as quinidine.

#### c. Impaired Conductivity:

As conductivity is depressed by digitalis, it is harmful in incomplete or intraventricular block. If the block is complete, digitalis can do no harm and may be given for its effect on tonicity.

#### d. Depression of Contractility:

The only evidence of an impairment of contractility is an alternating pulse—easily made out with a blood pressure instrument. When the difference in the alternating beat is 8 or 10, or more, mm. of mercury, it indicates a serious form of heart failure and digitalis should not be given, as it depresses contractility.

e. In the heart failure following *myocardial infarction*, there is a tendency to the development of heart block, auricular flutter, or ventricular tachycardia, depending upon the area of heart muscle involved, and digitalis may precipitate any of these abnormal rhythms. Even if the heart muscle loses tone causing dyspnoea and dropsy, digitalis cannot help the infarcted area and by increasing the irritability, it may do a great deal of harm.

CONDITIONS FOR WHICH DIGITALIS IS FREQUENTLY USED WITHOUT ANY DEFINITE INDICATIONS OR CONTRA-INDICATIONS, BUT MAY BE HARMFUL

### I. Fever:

Why give digitalis to slow the heart rate in fever? With elevation of temperature there is an increase in metabolism and a consequent acceleration of the pulse rate. Slowing of the pulse in the presence of fever seldom occurs unless there is a fibrillation.

### II. Pneumonia:

The value of digitalis in pneumonia has been much discussed but is still unsettled. The wide spread belief that digitalization of all pneumonia patients materially lessens the death rate is not justified. The cause of death in pneumonia is usually toxemia. Cardiac failure is a factor in only a relatively small percentage of cases. There seem to be only two complications of pneumonia that may be favorably influenced by digitalis, **edema of the lungs** and **auricular fibrillation**. The sudden development of **pulmonary edema** in pneumonia is frequently due to a general failure of the vital forces. It is not always caused by acute cardiac dilation as so many suppose. As loss of tone of the right heart is probably a factor in some instances, the use of digitalis to increase the tone and lessen the tendency to dilation, is justified—but it does this to only a slight extent.

I recently saw a patient with only a moderately severe pneumonia who developed an edema of the lungs and died on the seventh day of the disease. He had been given two ounces daily of the infusion of digitalis—14 ounces in all, about 250 per cent of the amount required to digitalize.

Digitalis will not prevent fibrillation—either in small or large doses. In fact it has a tendency to induce it. But if fibrillation develops during the course of pneumonia in a patient who has had no digitalis, he should be digitalized as soon as possible with massive doses of the tincture by mouth or rectum, or with strophanthin intravenously.

It should be emphasized that excessively large doses of digitalis in pneumonia or any other infectious disease to pre-

vent cardiac complications may be harmful, not only by producing gastric disturbances and delirium but also by increasing the irritability of the already irritable heart—thus favoring the tendency to the development of derangements of rhythm.

### III. *Goiter:*

It is not only illogical to give digitalis for the fast, regular pulse of hyperthyroidism, but there are definite contraindications for its use. That the irritability of the heart muscle is markedly increased in hyperthyroidism is shown by the frequent occurrence of such irregularities as extrasystoles, paroxysmal tachycardia, auricular flutter and auricular fibrillation. All these irregularities may be produced in goiter patients with large or, even, moderate doses of digitalis. The physiological fact that both thyroxin and digitalis increase the fundamental property of irritability of the heart muscle, corroborates the clinical observation that digitalis is positively harmful in hyperthyroidism—except in cases of fibrillation. Such an eminent authority as Plummer condemns the use of digitalis in all goiter patients—even when there is fibrillation and dropsy.

We use digitalis for fibrillation in goiter patients just the same as for fibrillation due to other causes. We find that about 20 per cent more digitalis is required on account of the hyperthyroidism—and even then the reduction in rate is not as marked as in non-thyroid cases. If the advice of Grant of St. Louis to give ten to twenty times the amount usually required in fibrillation from other causes, is accepted, the reduction in heart rate could doubtless be obtained with a corresponding increase in mortality rate.

Fibrillation is the only cardiac condition caused by goiter for which digitalis should be used. It should not be used for dilatation of the heart associated with dropsy if the rhythm is normal, nor should digitalis be given to a patient with a regular heart before operation to prevent post-operative fibrillation. Digitalis may cause fibrillation. If fibrillation develops, give digitalis or intravenous strophanthin. To prevent fibril-

lation give quinidine which lessens irritability.

### DOSAGE AND PREPARATION

There are two rules for dosage and if both of these rules are kept in mind every time digitalis is given, a serious error will seldom occur. One of these rules is to give enough digitalis—regardless of the preparation used—until the desired therapeutic effect is obtained. The other is to use the body weight of the patient, as suggested by Eggleston, for the estimation of the approximate amount of the drug required.

To push digitalis in all cases of heart failure expecting to obtain a slowing of the rate and a relief of symptoms, is dangerous practice. There are types of heart failure that will not respond to digitalis or to any member of the digitalis group. When one is in doubt, the body weight is a fairly safe criterion to dosage.

About ten years ago Doctor Eggleston discovered that digitalis changes the function of the heart muscle only when enough of the drug is given to reach a definite concentration in the tissues. He found that an approximate definite quantity is usually required for digitalization and that the required amount could be given in one dose and the digitalis effect thus obtained in four or five hours. Eggleston's discovery does not mean that digitalis is not as toxic as it was formerly thought to be, nor does it mean that massive dosage is always safe or should ever be used except in emergency.

I never give more than one, or at most two teaspoonsful the first dose and seldom give the second dose inside of eight or twelve hours.

The Eggleston method of dosage is calculated from the body weight. The amount required to digitalize is approximately 1 c.c., of the tincture for each ten pounds of body weight, and 1 c.c., of the tincture is equal to 7 c.c., of the infusion and to 1½ grains of the powdered leaf. Therefore, a patient weighing 166 pounds will require 16.6 c.c., of the tincture; 1.66 grams of the powdered leaf; or 116.2 c.c., of the infusion. The only unfortunate thing about this calculation is that the metric system is used. However, in this it is only necessary to remember that one



c.c., is equivalent to fifteen minims (35 to 40 drops) and that nearly all the tablets and capsules on the market contain  $1\frac{1}{2}$  grains of the powdered leaf which equals 1 c.c., of the tincture.

When it is necessary to keep a patient digitalized for months or years, as for instance in continued fibrillation, the daily amount required is about the same as the quantity eliminated daily, which is approximately 22 minims (55 drops) of the tincture or 2.25 grains of the powdered leaf.

In deciding on the best preparation of digitalis to use, I cannot do more than quote the statement made by Mackenzie many times: "When the tincture fails I have found no results from any other preparation."

One often hears the statement that some patient can't take digitalis by the mouth because it "upsets the stomach." The nausea and vomiting caused by any of the digitalis preparations is due to the action of the drug on the heart muscle and to the stimulation of the vagus. It is not due to irritation of the mucous membrane of the stomach.

The manufacturers of digitalis preparations have capitalized many of the erroneous ideas about the action of the drug and have flooded the market with a number of preparations with such claims for them that they do not cause gastric disturbances, are devoid of cumulative effects and that they may be given subcutaneously or intravenously. Regarding these claims I will quote two statements by Cushny: "Any preparation of digitalis that is not cumulative or does not produce nausea is inert." Concerning preparations for hypodermic use he says: "There is no suitable preparation of digitalis for subcutaneous, intramuscular, or intravenous use, and the only form which is generally approved for emergency is strophanthin intravenously." These statements by Cushny represent my own view exactly.

**Tincture:** Any standardized pharmacopoeial tincture may be used. There is no advantage whatever in using any of the special tinctures. All the U.S.P., tinctures are defatted, equally as potent—or more so—than the proprietary prepa-

arations and are much cheaper. The U.S.P. tinctures made by any of the reputable manufacturers cost the druggist ten cents an ounce, while the tincture made by the same manufacturer with a trade name, such as "Digitol" or "Digifortis" costs 50 to 60 cents an ounce.

The dose of the tincture to produce digitalization is the number of c.c., represented by ten per cent of the body weight. To keep a patient under the influence usually requires about 18 to 22 minims daily. It must be remembered that one minim corresponds to about  $2\frac{1}{2}$  drops.

**Digitol:** is claimed to be a "fat free tincture." It is regarded as a reliable form of the tincture, but the presence of fat has nothing to do with digitalis action.

**Infusion:** Dose—seven times the tincture. It deteriorates rapidly, varies in strength. There is no use to bother with it.

**Powdered Leaf:** Dose— $1\frac{1}{2}$  grains corresponds to 15 minims of the tincture.

The cost to the druggist for one hundred  $1\frac{1}{2}$  grain capsules of the U.S.P. powdered leaf is 19 cents. There are many tablets of the powdered leaf on the market—all with extravagant claims as representing some superior quality of the leaf. All bear the trade name of the manufacturer and all are sold at exorbitant prices.

One of the best known and most widely used is the *digitan* tablet. This is a standardized and reliable preparation, probably as good but no better than the leaf in capsule. One hundred of these tablets cost the druggist \$5.40 as compared with 19 cents for the same quantity of the U.S.P. leaf.

Some other tablets in common use, such as digifoline, digitorea, and digilusin are a little cheaper, but they all cost from five to twenty times as much as the U.S.P. powdered leaf.

**Digitalin:** Some pharmaceutical houses still make hypodermic tablets containing  $1/100$  grain. Less than  $1/10$  grain has no effect on the heart. The average dose is  $1/4$  grain. It is not uniform in composition and very irritating when injected.

There is no reason why it should ever be used.

*Digalen*: This is quite a popular preparation both for oral administration and for hypodermic use. It is less than half as strong as the tincture and is an unstable preparation. When a patient is given 1 c.c., of digalen intramuscularly or intravenously, he has had less "scientific" therapy than if he had been given  $7\frac{1}{2}$  minims of the tincture by the mouth.

I know of no worse therapy than the giving of digitalis or strophanthus compounds. All such preparations are made and put on the market by drug houses solely for commercial reasons and doctors should not be misled by them. Digitalis should never be combined with any other drug. It should be given alone or not at all.

#### SUMMARY

1. There was practically no advance made in the use of digitalis for one hundred years after Withering's discovery because the physiological properties of the heart muscle were not understood.

2. Digitalis modifies the function of the heart not only by stimulating the inhibitory mechanism but it becomes fixed in the muscle cells.

3. The cardiac signs of toxic doses are due to increase in the property of irritability and to lessening conductivity. Death from over dosage is not rare and is usually due to fibrillation of the ventricles.

4. The only types of heart failure benefited by digitalis are auricular fibrillation and impaired tonic and possibly auricular flutter.

5. It is contra-indicated in extrasystoles, paroxysmal tachycardia, heart block, and myocardial infarction.

6. It is of questionable value in pneumonia unless there is fibrillation. It should not be used in goiter except for fibrillation, and it should not be given to prevent post operative fibrillation.

7. The approximate safe dosage can be calculated from the body weight. As some patients are susceptible and others resistant, the signs of therapeutic and toxic doses should be kept in mind.

8. The only preparations advised are

the pharmacopoeial tinctures and the powdered leaf.

9. The subcutaneous, intramuscular, or intravenous administration is condemned. In emergency strophanthin intravenously.

10. *A minim of the tincture of digitalis is equivalent to  $2\frac{1}{2}$  to 3 drops.*

R

### The Treatment of Acute Polio-Myelitis From a Physiological and Pathological Standpoint

EDWIN D. FEBRIGHT, M.D., Wichita

Read before the Kansas Medical Society at its Annual Meeting, May 8-10, 1928, at Wichita, Kansas.

I have on my desk an article written by Dr. Flexner and delivered before an audience at the Academy of Medicine in New York City, July 13, 1916, on "The Nature, Manner of Conveyance, and Means of Prevention of Infantile Paralysis." For the ground attempted to cover this article could be published today and be considered the accumulated knowledge we possess on the subject. I mean by this that we know very little more today about the nature of infantile paralysis or the manner in which it is conveyed or the means to prevent its spread, than we knew twelve years ago. To a like degree one would be justified in saying that today in treating the disease in the acute stage with the definite end in view of preventing or limiting the pathology that takes place in the structures most directly involved, viz. the motor cells, our results would indicate that we know very little more about treating the disease than we knew in 1916. We have used our mechanical sense to prevent strong muscles from overpowering opposing weak ones; we have devised and perfected operation after operation for the correction of permanent deformities, but as valuable as are these, they are useful only in later stages of the disease. It is true that much time and effort has been expended in attempts to produce a serum that would be beneficial or curative in the acute stage, but no one, we believe, will claim that our results along this line have been such as would warrant us in becoming very enthusiastic over this method of treatment. Grouping together



all the results that have been published by numerous experimenters and allowing for those where the serum was given before any paralysis developed, we get about the same percentage of cures or beneficial results as is reported by those who have not used the serum treatment. It is possible that the failure of serum to favorably affect the disease, after the high hopes that it held out, is partially responsible for the pessimistic attitude of physicians in general, and for the usual advice given to the parents of children attacked with the disease, to wait for further developments, as nothing can be done at this stage other than whatever symptomatic treatment may seem to be indicated, and this after the diagnosis is certain.

The gravamen of my indictment is that we have not used our knowledge of the physiology of the nervous system, or of the pathology of the disease to institute a method of early treatment in accord with our best experience in treating other diseases of the human body. In a paper read at the meeting of the A.M.A. in 1917, I recommended rest of the diseased motor cells, with all that that implies, as the proper method of treatment and suggested ways to accomplish this result. Today I am more than ever convinced that I was right in advocating a plan of treatment, that is as logical as rest for a failing heart or for a broken bone. You say, "We will agree with you as to the pathology of the disease, and with the benefit of rest to these cells, if such rest were possible to be had, but the cases cited are not analogous, and it is impossible to rest the motor cells to any such degree as we rest a failing heart or a broken bone." I answer, "The cases are not so dissimilar as you may imagine, and if the indication is present it might be well to make an effort in that direction." Further than this, no one but myself, so far as I know, has made any serious effort to carry out the treatment advised to the point where it could be expected to be efficient.

In a very recent book of 375 pages on polio the author has divided the treatment under four heads. (1) The Symptomatic, (2) The Preventative, (3) The

Mechanotherapeutic, (4) The Operative. Under the first the symptomatic which is indicated in the acute febrile stage other than eight pages given to the serum treatment, he has devoted just eleven lines of 109 words to the subject. He has very briefly spoken of rest as a desirable thing, but has offered no advice as to how this rest might be had. His rest means rest in general with no suggestion that it might be part of a definite plan to meet a physiological and a pathological necessity. The rest I was talking about eleven years ago and am further urging at this time, is not a theoretical or a visionary thing, but a definite rest of the injured motor cells induced by cutting off all possible afferent impulses that originate in the skin surfaces of the entire body and in the muscles themselves and thus eliminate or at least reduce the number and strength of the stimuli reaching the diseased motor cells through the reflex arc in the spinal cord.

Now, are we certain enough of the pathology and do we know enough about the very complex problem of afferent and efferent impulses, about the nature of the nerve impulse, about the paths of conduction through nerve and spinal cord, about motor reaction to sensory stimuli; in short, about the physiology of the nervous mechanism, to justify us in saying that it is possible to rest these cells and in claiming any resulting benefit in case the rest can be had? Let us say again in this paper, we are limiting our discussion to the ordinary spinal type of the disease that constitutes a very large proportion of our polio cases. Given such a case the diagnosis made from such symptoms, as fever, restlessness, pain, stiffness in the neck, etc., and proven by an examination of the spinal fluid that shows an increased cell count and an increase in the protein content, or a case that presents no symptoms prior to the advent of the paralysis but made certain by the presence of other cases in the vicinity, we affirm that an early intelligent effort to bring about this rest of the injured cells will result in a very marked lessening of the early symptoms such as pain, and restlessness,

and in an even greater reduction of the final and permanent paralysis, and deformities that have been considered an unescapable feature of the disease.

#### PATHOLOGY

The name acute anterior poliomyelitis was given originally to the disease because it was thought to describe correctly the pathology. In the sense that it explains in general the end results that occur in the most frequent type of the disease, viz. the spinal type, it probably is as appropriate a name as could be given, but we now know that it gives only an imperfect picture of the conditions that may be present. Not only is it a disease of the anterior horn of gray matter, but of the posterior, or sensory, horn as well as is evidenced by the early sensory symptoms that accompany the attack. Its action is not limited to the gray matter alone, but the white matter also shares in the invasion. And finally, not only is it an acute inflammatory condition of the anterior horn of gray matter, but occasionally the brain and its coverings are involved, in which case we say it is of the cerebral or spastic type. This last type is mentioned not that we wish to discuss it, but only to show the complexity that the disease presents. However, be it brain or cord or both the pathology is essentially the same. Once the organism or virus enters the spinal canal we have briefly the following pathological picture. First, a meningitis. Then as the blood supply of the cord itself comes from the meninges, we have a perivascular infiltration that follows these vessels. The extent of this infiltration is in proportion to the vascularity of the region, and as the blood supply is greatest at the cervical and lumbo sacral enlargements, we have at these points the most intense congestion which explains the reason for the frequency of the subsequent paralysis of the extremities. Following this primary engorgement we have the usual picture of inflammation, which is chiefly noticed in the gray matter due to its lessened density as compared with the white matter, and its greater blood supply. In addition to the general edema the lining walls of the vessels may become weakened and hem-

orrhagic extravasations are seen in the intercellular spaces. The motor and sensory cells are themselves in severe cases sometimes affected, the injury to the sensory cells generally being temporary, while that to the motor cells may proceed to the point of destruction of the Nissl granules and death of the nucleus, but generally the injury to the cells is due to the pressure surrounding them from the primary edema and from the formation of scar tissue in the neuroglia. Following these changes in the course of two or three weeks a recession of the process begins to take place. The edema is cleared up by nature, and the cells not destroyed by the virus or worn out by repeated attempts to function, regain their tone and the patient recovers or enters the chronic stage of the disease. However extensive or severe the inflammatory process may be, in all cases where the patient does not die from paralysis of the muscles of respiration within the first few days, or from a pneumonia, the final condition of the patient depends entirely upon what has happened to the motor cells. Very seldom do we have any permanently bad results from the injury that has been done to the posterior or sensory cells or to the white matter. All the crippling and deformities that we see in our old chronic cases represent motor cell injury and that alone. Now these cells are put out of commission in one of four ways. (1) Pressure from simple edema. These recover in whatever time it takes. (2) Pressure from light hemorrhage in the intracellular structure. These will require, of course, more time to recover. (3) Pressure from intense hemorrhage, that puts them out of business for a much longer time or destroys them completely and (4) These cells completely disintegrated by the virus or toxins. Muscles enervated by these cells of course, are paralyzed permanently.

With this brief review of the pathology, we come now to the consideration of the physiology of the nervous system that has to do with the origin of sensory stimuli that are responsible for all muscular movement, and for the continuance of life itself. We are aware that the time at



our disposal will not allow us to go very thoroughly into the subject. We can only state our thesis and adduce what facts we may in support of the theory that nature has furnished us a way to prevent a large percentage of the paralyses and deformities that follow an acute attack of infantile paralysis and that we have not taken advantage of this provision of nature in our treatment of the disease. This then, is our contention: The cord structures are invaded by an organism or a virus that causes an acute inflammation of the cord at certain levels. We have generally considered that the cells of the gray matter have been the chief points of attack and that the motor cells have suffered more than the sensory cells. It is true as we have stated, and as every one agrees, that the paralyses remaining long after an acute attack are due entirely to motor cell injury. But our position is that this does not mean necessarily that the pathology in the acute stage is within the cell itself. Some of these cells are thus completely destroyed at this time, but these are few in comparison with the number that are injured by pressure due to the edema and the hemorrhage in the intercellular tissue. The immediate result is the same, whether the cell itself is destroyed by the virus or incapacitated by the pressure; in either case it is unable to formulate and forward its motor impulse. But the end results may be very different. If the cell is destroyed we know the muscle enervated by this cell is permanently paralyzed, but, if its impotence is due to pressure, so soon as the pressure is relieved it will regain its function and resume its activity. And this is exactly what happens in infantile cases, where the muscle is completely paralyzed in the acute stage but recovers its action after two or three weeks. Now, if a muscle enervated by a motor cell that is injured only by outside pressure, remains permanently paralyzed we reason that something has happened to that cell in addition to the original injury, and we offer this suggestion, that all permanent paralyses in excess of the cells destroyed by toxemia, represent a failure on our part to appreciate the nature of

the disease, and means that we are responsible for those additional factors that have converted a temporary disability into a permanent one. Now, what are those additional factors and what provision has nature offered us to very materially reduce the crippling deformities of this disease?

All muscular action, voluntary and involuntary, is the result of sensory stimuli sent from the surface of the body or from within, along afferent nerves to sensory cells in the cord where it is relayed to the motor cell in the anterior horn, at which place it is transformed into motor energy and sent out along the motor or efferent nerves as a motor impulse that causes voluntary muscles to function to the end that purposeful movements may result, and to the involuntary muscles that the normal functions of the body not under control of the will may continue. This in brief is the plan and path of a normal co-ordinated spinal reflex. It has been said that life itself is a series of reflex acts and that the purpose of life is the development of other and more complex ones. But all reflexes are not so simple as the co-ordinated spinal reflex just noted. In the simple reflex the stimulation of a certain spot on the skin follows certain definite paths and produces certain definite muscular results. The call of the body for certain secretion or certain actions necessary for the preservation of health, follows the stimulation of certain tissues within the body, the glands or the mucous membranes, and these stimuli, as a call for help are sent along certain afferent paths and result in certain involuntary muscular actions that follow certain definite efferent paths. Now all of the reflexes require that each factor or station in the circuit be at par, or the circuit is broken, and the final result is not obtained. Also, there are conditions where the usual path from sensory cells to a definite motor cell is not followed and if the stimuli are strong enough the sensory impulses may be sent along dormant bypaths to motor cells not usually connected with this particular sensory cell. In other words, the impulse may overflow into unnatural channels. This is what happens in

strychnine poisoning. While we are not urging that the toxins of polio may produce a similar condition in the synopsis of the cord, we are suggesting it as a possibility.

Now, if the stimuli from the skin surfaces of the entire body are allowed to be poured into the sensory cells of the cord, some of these stimuli are sure to reach the motor cell incapacitated by reason of the pressure that prevents it from carrying out its part of the program. The result of this constant reception of impulses that originate in the skin and in the diseased muscles themselves, is that the motor cell soon becomes overcharged to the point where it is completely destroyed, and thus our paralysis that should have been temporary is converted into a permanent one. Now, as practically all the sensory impulses that may be sent to this diseased motor cell originate from irritation to the skin and from irritation to the tendons and tendon sheaths of the diseased muscles, it seems to me that if we can intercept these impulses that are poured into the diseased motor cell, by stopping them at their very beginning, viz., at the skin surfaces and in the muscles, we are taking advantage of the provisions that nature furnished for resting the diseased cell and thus, allowing it to recover much more certainly than if it has to suffer the repeated shocks of sensory stimuli with no ability to forward its normal and usual impulse. And so, we have reasoned that the way to produce conditions that will allow these cells to rest, is to put the child suffering from infantile paralysis in solid plaster early in the course of the disease, before these additional shocks have further weakened the injured cell. We believe the chief injury done in these cells occurs during the first few days and that the treatment to be efficient must be instituted early in the acute period. We have said advisedly, the entire body in plaster. It is in no way meeting the indications, to put only the paralyzed member in plaster. We have talked to those who thought they were carrying out the treatment when a child with one leg paralyzed had this leg put in a plaster splint. This is good so far as it goes

to prevent contractions, but it fails to take into consideration the fact that irritation of the skin of a normal right arm may through unusual paths in the spinal cord be transformed into stimuli that find their way into a diseased motor cell enervating the paralyzed left leg. Therefore, it is necessary to inhibit all the sensory stimuli that arise in the skin of the entire body if one would be sure of resting any particular diseased motor cell or cells.

Furthermore, the application of plaster stops the pain that arises from movement of the muscles of the extremities, and stops the formation of the vicious circle represented by sensory stimuli arising in the tendon of a muscle that may be transmitted back to the very weakened motor cell enervating this particular muscle. We have said that a stretched muscle will not regain its tone because of the creation of this vicious circle, and so all joints should be put in a neutral position if neither the extensor or flexors are involved. If either set is paralyzed the joint should be put up in the position that relaxes the paralyzed muscles. For the reason that stimuli arising in the receiving organs of the special senses such as a bright sudden light, or a sudden noise may be also sent not only to their respective centers in the brain, but through the white column of the cord to the sensory cells of the cord and from these transmitted into impulses reaching the weakened motor cell enervating voluntary muscles of the paralyzed extremities, the child should be put in a darkened quiet room and all disturbing factors eliminated. Perfect mental and psychic as well as physical rest should be sought.

Now, after all this theory we come to the intensely practical question, does this plan of treatment based on certain conceptions of pathology and on undisputed facts which we know about the nervous system, work when put to actual test? Will it give us fewer permanently crippled children, and will it remove to a great degree the dread of this distressing disease? We are very glad to be able to answer unreservedly it does, and it will, but we warn you that it must be carried



out with a very careful attention to detail and with a determination to fully understand the problems to be met, especially the necessity of early treatment.

During the small epidemic which we experienced last summer and fall, we saw and treated eight cases, seven of which were seen early enough to put the theory to a fair test. All of these presented muscles completely paralyzed, i. e. a degree of paralysis that we have previously designated as —5. One of these was a —5 deltoid and out of a large number of such cases of equal severity, it is the only one we have ever seen recover. The other cases are all practically recovered with the exception of one quadriceps, and this case was first seen on the sixth day.

While we are aware that the results in such a small series of cases cannot be accepted as definitely proving the value of the treatment, to us they are convincing enough that we have no fear or hesitancy in recommending it to you.

R

### Some Aspects of Ocular Headache

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Read before the Kansas Medical Society at its Annual Meeting, May 8-10, 1928, at Wichita, Kansas.

In the experience of the oculist, eye-strain is the most frequent cause of headache. This is often due to the accommodative effort necessary for clear vision. This is particularly true among students and professional and business people. As we are all aware, there is a very intimate relationship between accommodation, convergence and pupillary size. It is noteworthy that high refractive errors seldom cause discomfort or at least headache. More often, in these cases, the patient consults the oculist because of poor vision. The error being too great for the neuro-musculature of the eye to overcome and produce acute vision, there is relatively no effort made on the part of the eye to produce a clear image. Therefore, the chief complaint is poor vision rather than headache. However, small or relatively small refractive errors which may be compensated for by the intrinsic musculature of the eye constitute constant strain upon the neuro-muscular system of the eyes, resulting

oftimes in headache and occasionally in intense spastic pain. We are all familiar with the old adage that it is the last straw that breaks the camel's back. So, it is often the case with a refractive error. Suppose a person living the highly nervous, active life of today, working hard, sleeping poorly, eating little, who has a refractive error of, say  $\frac{1}{2}$  diopter of hypermetropia with a like amount of hyper-metropic astigmatism. To such a person his refractive error often proves to be the last straw. The neuro-muscular tension required to compensate for his refractive error aggravates his nervous system, upsets his digestive apparatus and renders him unfit for the intense, close application required in his intensive life. Put such a person in the open air under less strain and with little close work, his refractive error would be compensated for perfectly, and without discomfort to him by his own intrinsic ocular apparatus. However, under his present state of affairs, such is not the case, and, as we cannot often change even if we would, the habits and mode of living of our patients, we must give him relief. His refractive error properly corrected, his headaches cease, his nervousness lessens, he ceases to be conscious of his eyes and is a very much happier individual.

It is a noteworthy fact that rarely does a myopic person consult the oculist complaining of headache. This is undoubtedly due to the fact that our accommodative apparatus is arranged in such a way that the accommodative effort is made for near work. Little or no neuro-muscular stimulation is required for ordinary close work in these patients. And conversely, as our accommodative apparatus does not work in reverse to any appreciable degree, the patient simply does not see well for distance and makes no complaint except that of poor vision. Exception to such cases is the person with a considerable degree of myopic or mixed astigmatism.

Permit me to take this occasion to comment on that ever-present remark that "So-and-so could see perfectly well until she got glasses and now she can't see without them." Obviously, this can only mean that either the person is in

the beginning presbyopic age or previously had been compensating for considerable error of refraction. In the latter case, especially after wearing a correction for hypermetropic astigmatism, without glasses the vision is considerably less acute unless the glasses are left off for some time and the eye permitted again to compensate fully for the refractive error. This may be done readily enough if the physical condition of the patient warrants it and the astigmatism is not too great.

We must consider the fact that our ocular apparatus is constructed in such a way as to be at rest when focused at infinity or beyond twenty feet. We must also keep in mind the fact that in our present day methods of living that the large majority of us live, work and extend our every effort with our ocular apparatus focused within twenty feet, and a very large part of the time within three feet. I consider this a very good answer to the oft-asked question as to why so many people nowadays wear glasses. We simply do not live in the way nature intended us to live so far as our ocular apparatus is concerned. We all see many people with perfectly normally functioning eyes with perfectly balanced extrinsic ocular muscles and good accommodation, but who simply misuse or overuse their eyes to the extent that they have headache, photophobia, lachrymation, redness of the conjunctiva, etc., due in most cases to excessive near work and, oftentimes, coupled with insufficient sleep and are, of course, under par physically. Such a person needs, if possible, first of all, to break the vicious circle he has established. I often wonder at the indiscriminate, unconsiderate misuse that our ocular apparatus stands. What if we should misuse our arms or our legs to the extent that we do our eyes? I feel sure that the resultant symptoms would be much greater and that a halt would of necessity be called much sooner.

The intimate relationship between accommodation and convergence is also responsible for many headaches. A person may be hypermetropic a diopter, a diopter and a half or even two diopters

and the intrinsic accommodation be sufficient to compensate for his hypermetropia. But accommodation calls for convergence. We can readily see that an accommodation compensating for two diopters of hypermetropia would stimulate an excess of convergence. An excess of convergence calls for an increasing strain on the external recti, the weaklings of the extrinsic ocular muscles. Since nature abhors diplopia as she does a vacuum, these muscles bravely stand by their guns and prevent the homonymous diplopia that tends to occur under such a condition. Thus we see added to the intrinsic or accommodative strain, the extrinsic neuro-muscular strain.

I believe that many of us are prone to overlook one of the important causes of ocular discomfort, namely, this extrinsic ocular imbalance, especially in view of the fact that each and every time a patient is fitted with a pair of glasses, this intimate relationship between his accommodation and his convergence has been altered, perhaps beyond his ability to comfortably overcome. For instance, a patient is 1 diopter hypermetropic. In compensating for this error, a certain stimulation to convergence is given. This stimulation tends to produce, as does stimulation within reason everywhere, a stronger neuro-musculature. We all know that in hypermetropic patients the internal recti muscles are stronger in nearly every case than the three to one ratio worked out by Savage. But, in placing a convex lens before such an eye, the accommodation is relaxed, the stimulation to convergence is withdrawn, the external recti muscles which have been working against overstimulated internal recti muscles now exert an over-pull with certain discomfort to the patient until this delicate balance has been again regained. And, if there exists some peculiarity, some anomalous condition, some weakness or overstrength in some or any one of the extrinsic ocular muscles, perhaps this balance may not be regained while wearing the lenses fitted. Nature, however, is kind, especially when she recognizes a helping hand and since the diminished accommodation tends to diminish the stimulus to convergence,



usually there is established, within a very short time, relief from headache which had been due to excessive accommodation and convergence.

Also, we are all acquainted with the patient whose refractive error is nil or practically so, and yet whose headache and discomfort upon doing close work is extreme. Many of these cases are due to a muscular imbalance, especially a vertical imbalance or an exophoria. Prisms must ever be prescribed with extreme caution. They are, however, a boon, especially in these cases of vertical imbalance. Many patients are made perfectly comfortable by the addition of a  $\frac{1}{2}$  to a 1 prism diopter to their refractive correction, base up or down. The correction of these cases is satisfying in the extreme. There is little or no disturbance or alteration of that intricate system of muscular balance and the patient is relieved of that constant strain necessary to maintain binocular single vision, especially during close work.

So much for the headaches due to refractive errors and muscular imbalance. Just a word in passing regarding the so-called panorama headache or kaleidoscopic headache so common nowadays with the moving pictures, swiftly moving automobiles, etc. In many cases, these headaches are found not to be due to retinal fatigue but to refractive or muscle errors, but certainly there are those cases which seem to be produced by prolonged fixation at a quick succession of images such as a moving picture or watching the road while driving an automobile or looking out a car window, etc. Certain of these cases I believe to be due to actual retinal fatigue. And why not? The retina, the most sensitive, the most intricately constructed organ of the body, nervous in its very makeup, is subjected for hours at a time to a quick succession of stimulations, and that very often under unnatural and harassing circumstances. For instance, we enter a moving picture theater. Our pupillary reactions suitable to the surrounding conditions of light or comparative darkness. The theater is invariably dark. The pupils expand and by that very act even our accommodative apparatus is

somewhat disturbed. We sit for hours our gaze fixed on a bright screen upon which is portrayed a series of images so rapidly that they give the effect of motion, and this with unnaturally wide pupils admitting an excess of light. Our accommodative apparatus may or may not have adjusted itself to the unnatural situation, but the retina receives and truly reports to the higher centers the images portrayed. Why should it not suffer discomfort, especially under such unnatural conditions? The same conditions obtain in driving a car. Our gaze is intent upon the road a few yards in front of us. We are traveling more or less rapidly and the images portrayed are swiftly and constantly changing. Again, why should it not be fatigued? The answer seems to be more intelligent theater lighting—and in the case of automobilizing, sufficient periodic rest determined by the capacity of the individual.

In closing, permit me to refer to that one ocular condition dreaded by all, glaucoma. It is a condition with few exceptions, of later life, when more or less difficulty is being experienced continuously for near work due to presbyopia, beginning lenticular opacities, cloudiness of the media, etc. It occurs at the time of life when our patients expect that their glasses must be changed more or less frequently. It occurs more frequently in hyperopic eyes, they being the smallest and shallowest, antero-posteriorly. We have all seen patients who have been here and there for various changes and fittings of glasses, many times by those untrained in medicine. Often when they finally visit a competent oculist the condition can almost certainly be diagnosed by the patient's history alone, namely, gun-barrel vision, halos, gradually decreasing visual acuity, etc. These patients may or may not have had an acute attack of glaucoma with a typical reddened and tender eyeball with ground glass cornea, etc., but almost invariably they will complain of pain in the eyes, of deepseated headache and very frequently of nausea. In fact, many cases of glaucoma have been treated over long periods for stomach trouble. In those patients in the presbyopic age whose

complaint is headache, especially if it be nocturnal and not attributable to systemic disturbances, incipient glaucoma should be suspected and the case thoroughly worked out from that aspect. Untreated, unsupervised glaucoma means almost certain blindness. Treated and supervised late glaucoma yields at best uncertain results for the most part. Upon the early recognition of this dreaded condition we rely for our most satisfactory results.

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### **The Association of Physicians and Dentists in Relation to Focal Infections**

EDWIN N. ROBERTSON, M.D., Concordia

Read before a Combined Meeting of the Cloud County Medical and Dental Societies, at Concordia, Jan. 23, 1929.

The writer is one of those who believe that dentistry or diseases of the mouth should be a department of medicine, like ophthalmology or oto-laryngology. Particularly the latter specialty because of the similarity of the remote effects of diseases of the ear, nose, throat and teeth, as well as because surgical knowledge and skill is required in both. There are other specialties of medicine which no doubt require more general medical as well as special knowledge than should be required of the dentist, but this additional special knowledge is usually secured after finishing the medical school. While it is true that much of the work of the dentist is mechanical, and mechanical ability is necessary to the success of either the dentist or surgeon, both have problems to solve which require a knowledge of science and medicine. Perhaps I should also add art, for the dentist or surgeon who looks upon his work as a job to be done on a particular part of the body, without taking into consideration the body and mind of the patient as a whole is due for both shocks and disappointments. The very fact that the dentist has the title of doctor should be an assurance of his adequate understanding of the body as a whole in relation to diseases of the teeth.

The advance of our knowledge has been so rapid in the last few years that it is becoming increasingly difficult for the busy specialist in any department of medicine to keep fully informed of the

work and progress in his particular field. But owing to the fact that dentistry has not been universally studied as a department and specialty of medicine, the physician has also had to solve problems which rightfully belong to the dentist.

In a meeting of dentists and physicians the keynote should be co-operation and it is conceded that mutual understanding is the factor which brings about co-operation. If, therefore, the dentist acquires more general medical knowledge as related to his specialty and the physician appreciates more the relation of remote local and general diseases to those of the teeth, the practitioners of dentistry and medicine have a common ground upon which they can get together and more intelligently discuss and work out a solution of the patient's problem. This mutual medical understanding would do away with most of our disagreements, more accurate diagnoses would be made, the primary cause of the disease would be more often found and the patient in addition to being satisfied, would have a better feeling toward the profession as a whole.

As is well known, lesions of the mouth and teeth may not only be the result of systemic disorders, but infections about the teeth are frequently responsible for other local or general diseases. For example, definite lesions of the mucous membrane of the mouth and gums are produced by syphilis and scurvy, the former being both a local and general infection and the latter a deficiency disease due to lack of vitamins. Furthermore, insufficient and improper foods, together with unhygienic living conditions, predispose to early decay of the teeth, both by general and local reactions. On the other hand pyorrhea, especially where pockets are present, dead teeth or those which harbor infective foci at the roots, may be partly or wholly responsible for many diseases, such as rheumatism, heart, kidney, eye and ear affections.

The ophthalmologist is justly proud of his ability to look into an eye with the ophthalmoscope and see the positive evidence of such general diseases as hypertension, arteriosclerosis, nephritis, syph-



ilis and often tuberculous and diabetes. In fact, many general as well as local diseases, especially those of the brain and accessory nasal sinuses, produce positive, though often slight, changes in the interior of the eye, capable of recognition by the trained observer. However, there are many affections of the eye, for instance, easy to recognize by their external manifestations as well as with the ophthalmoscope, concerning the etiology of which we may be in doubt. The same may be said of diseases of the ear and other organs of the body. The frequency with which dental infections are partly or wholly responsible for other local or general diseases is often not fully appreciated by the physician, and here is where consultation with a well informed dentist should bring benefit to both physician and patient. When the dentist finds diseases of the gums or teeth, he has the same right to suspect and inform his patient of the possibility of remote disease as the ophthalmologist has to warn his patient of impending disaster when he finds evidence of serious vascular disease by examining the interior of the eye.

When a physician or specialist is consulted by a patient the important thing is to make a complete diagnosis. In many cases when the diagnosis is established the treatment is a simple matter. But in other cases the clinical diagnosis may be clear, but finding the cause in another problem. Referring again to the eye, suppose a diagnosis of iritis is made. There is a well known and satisfactory treatment for this disease, which will alleviate pain and other symptoms, regardless of the cause, but unless the primary etiological factor or factors (in the particular case) can be discovered and eradicated, the disease may hang on for weeks or months, or if it gets better, a recurrence will follow soon.

A few years ago more than 200 cases of iritis and uveitis were studied in a large Chicago clinic, with special reference to etiology. In practically every case an infection of some kind was found and to trace its origin, the services of internists, roentgenologists, dentists, eye, ear, nose and throat specialists and

genito-urinary men were called upon. Either alone or in combination with other infections, dental infections were found in 44 per cent of the cases. Please note that dental infections were not the sole cause in this percentage. For instance, in one series 15 cases of syphilis were discovered and in 8 of these were found coincident dental infections. Either the syphilis or the diseased teeth could cause the iritis. This is mentioned to emphasize again how the dentist and physician studying a case together can be of mutual benefit.

The physician or specialist first consulted, if he has an adequate idea of the disease, should be the one to take charge of the case and because of his knowledge of the remote effects and possible etiological factors, should suggest the diagnostic procedures to be carried out in the order of their importance.

For example, one may see a definite eye disease and consider as possible causes: 1st, focal infection; 2nd, syphilis; 3rd, tuberculosis; 4th, diabetes. Focal infection may mean teeth, tonsils, sinuses, gall bladder or other remote foci and to trace this out may require more than one consultation. But if the patient is an adult the teeth are generally considered first and in a large percentage of cases evidence of trouble is found there. The teeth may not be the only foci but they have to be considered carefully. When the first most likely cause, focal infection, is disposed of, it is a simple matter to diagnose or rule out syphilis, tuberculosis or diabetes.

Referring to the ear, it is known that 90 per cent of nerve deafness is due either to focal infection or syphilis, the majority to the former, and since the teeth are a most likely cause, among the focal infections, here is another chance for the dentist and physician to work together.

Every physician of experience has undoubtedly heard of cases where a patient with a certain complaint has been advised to have all teeth removed, but the removal of the teeth did not bring the promised relief. After a time possibly another physician removes the tonsils. Later one or more nasal accessory si-

nuses are suspected and operated on. Still later the appendix is removed. Finally the cause of the trouble is found to be a diseased gall bladder, proven by the positive relief obtained after the gall bladder is removed. It is true that gall bladder disease is often secondary to the appendix and appendicitis may be due to focal infection higher up. Nevertheless, would not our patients regard us more highly as professional men, if we could withhold our treatment until by careful examinations and consultations a correct diagnosis is made and the real cause or causes revealed to the satisfaction of all concerned.

In the association of dentists and physicians only a willingness to work untiringly to discover the cause of disease can bring about satisfactory results. When this disposition prevails among a group of physicians and dentists, there is no desire to pass the buck, but each one assumes the full measure of his own responsibility.

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### TUBERCULOSIS ABSTRACTS

Statistical and clinical research within the last few years has brought into sharp relief the problems of tuberculosis among young men and young women between the ages of 15 and 25, including those in high school and in industry. Many theories that might account for the lag in the reduction of tuberculosis among adolescents and youths, have been advanced, but none have been proved. At present, the facts are too meager to serve as a basis for specific action.

#### THE NEGLECTED AGE

While the mortality from tuberculosis in general had declined 36 per cent in the last decade, the tuberculosis death rate at ages 15 to 25 had declined only half that amount. The greatest decline was shown for children under 5, their tuberculosis mortality having been reduced over one-half in the decade. In the age-period 25 to 44, the rate had declined 42 per cent. For children aged 5 to 14, the decline was almost the same. Even the mortality of older persons past 65 showed a decline of 31 per cent. The

young group, 15 to 24, alone had made little progress.



Poster in three colors designed to interest high school students

Classification according to sex shows great disparity between males and females. For the 15—19 group, the death-rate for girls is about 75 per cent higher than that for boys, and at ages 20—24, the women have a death-rate 20 to 25 per cent higher than the men. This disparity has been visible in the United States figures since 1900, but the variations have become greater in recent years.

The same phenomenon has been noted by Green, who made an analysis of the tuberculosis mortality of Cleveland; viz., that the mortality among females aged 15—24 was considerably higher than for men of the same ages and that their mortality was decreasing much more slowly. The Metropolitan Life Insurance Company finds that the excess of mortality of young females did not appear in their figures until about 1915. Their comment is as follows: "Contemporaneous with a declining death-rate, something has occurred within the past fifteen years to cause the mortality among the young white women to be higher than that of young white men."

These phenomena are made more striking by comparison with the figures for England and Wales. The decline in the general tuberculosis death-rate has been similar for both countries, being some-



what accelerated in the United States. But from a recent analysis of the age and sex incidence of English figures by Cobbett of the University of Cambridge, he concludes that "the decline (in tuberculosis mortality) has been smallest in childhood and old age, greatest between 15 and 25. . . . Between 15 and 25 . . . young women benefited rather than the young men."

The problems of mortality of this young group are not peculiar to tuberculosis alone. A recent analysis of heart disease figures shows that, in the last ten years, heart disease has declined in every age-group up to age 45 except young people aged 15 to 24.

Various causes are adduced by many writers. The increased industrialization of women which took place during the war years, the extra-curriculum activities of high school and college students, the physiological changes following the adolescent period, the dieting fad—all these in varying degree may have had their part in the result. It is, perhaps, trite to say that the group of young people, aged 15 to 24 is the one which must "carry on" for the entire country. We have intensive health activities and services for the infant, the pre-school child, elementary school children, mothers, men in industry, and yet these millions of boys and girls and young men and women, who are making all their adjustments to life at this critical period, are left untaught in regard to health. Surely, a neglected age.—Jessamine S. Whitney, *Health in High Schools*, Nat. Tuber. Assn., 1927.

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#### TUBERCULOSIS AMONG HIGH SCHOOL STUDENTS

The author, during recent years, has examined a large number of high school students in Chautauqua County, New York. Of the first thousand examined, 1.3 per cent were found to have tuberculosis of the lungs, either in a healed or active state. A relatively large part of the active cases were athletes engaged in the major sports. Seventeen were listed as suspects. One per cent of the student body had heart complications.

More than 22 per cent had enlargement of the thyroid gland.

When tuberculosis is found, those who control to any great extent the activities of the group are so notified. The parents are informed as to the proper care of the children, and the school authorities have been most co-operative in their efforts to prevent overwork of those affected.

Thus far, all but the active cases have been kept in school, and yearly re-examinations show that most of them are doing well. The plan outlined would seem to preclude the possibility of damage through mental or physical strain sufficient to produce a relapse of the disease. The present tendency in schools is to push the students to the limit of their mental capacities, and the student with a keen mind is urged to take on additional study loads in order to finish the grades at an earlier age. Such a plan may be commendable for healthy children, but it certainly is not conducive to the health of those who are below par physically. The examination of the school children has been a very real help in dissipating certain of the terrors which tuberculosis formerly had in the minds of many of the people.

Many of the cases found during school examinations are destined to become the active cases of the future if they fail to carry out proper precautions at this time. Judging from the histories of many adults admitted to the Newton Memorial Hospital, the writer feels sure that pulmonary tuberculosis, probably in a healed state, could have been demonstrated during their high school careers, had they been properly examined for the disease.

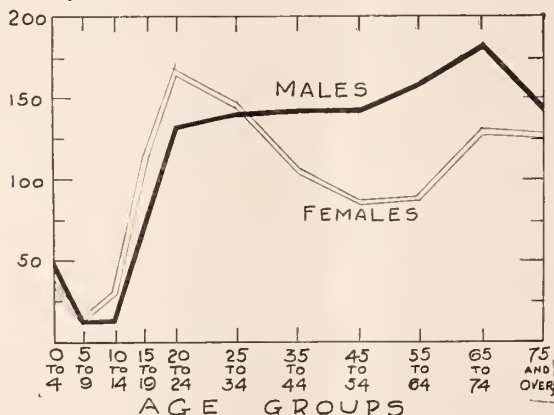
The writer's present plan is to examine all high school seniors and arrange for the examination of every pupil applying for working papers. If possible, he hopes to make the securing of working papers contingent upon physical and x-ray examinations of the chest. If the disease is not recognized at this time, a relapse is likely to occur as a result of changed conditions and the pressure of competition with healthy workers. In addition to the seniors and students leaving school, "contacts" and those with symptoms in the past are examined, in

the hope that eventually the grades will be reached and the entire school population covered. Wide use of the *x*-ray is necessary in school examinations. If funds are available, every student should be pictured. Such a policy will prove to be a wise investment of public funds.

When a diagnosis of tuberculosis in any form is made on a child, a thorough study of the family unit should follow. If all members of the family are alive, such a procedure is very likely to lead one to a tuberculous parent and possibly infected brothers and sisters.

The public school is one of the most important fields in the control of tuberculosis, and its potential resources of clinical material should be thoroughly exploited. When such a policy is universally adopted and is considered as essential, rather than an "extra part" of case-finding, machinery, then we will approach with greater strides that day of all days when the great white plague is mastered and is no longer a menace to human kind.—Tuberculosis among High School Students, Walter L. Rathbun, M.D., *Jour. of the Outdoor Life*, Jan., 1927.

DEATH RATES  
PER 100,000 POP.



Deaths from Tuberculosis by Age and Sex Groups

U. S. Registration Area, 1923

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The bride and groom were visiting in St. Louis. A flip young waitress waited on them.

"Would you care for some honeymoon salad?" she asked.

"What is it?" asked the confused groom.

"Just lettuce alone," replied the waitress.

## UNIVERSITY OF KANSAS CLINICS Chronic Dilatation of the Duodenum

Surgical Clinic of Dr. Thomas G. Orr.

Paper read by Student—Joe L. Johnston.

The earliest references to chronic dilatation of the duodenum appear to have been made by Glenard<sup>1</sup> (1889) and Kundrat<sup>1</sup> (1891) both of whom stated that a persistent incomplete obstruction of the duodenum by the root of the mesentery was not uncommon and led to a gradual dilatation of the duodenum and stomach. Albrecht<sup>1</sup> in 1889 mentioned two cases caused by a similar condition.

Chronic duodenal dilatation is a frequent pathologic condition. Normally the human duodenum has practically no mesentery. It is fixed dorsally by an abundant retroperitoneum, is indented in front and behind by blood vessels and other structures. Four footed animals have a long mesentery and freely movable duodenum, hence the human is paying the price of a pathological condition for the upright posture. If the human could retain the duodenum with a long mesentery and the free movement that is present embryologically this pathologic condition would probably not exist. The embryologic budding of structures into the dorsal and ventral mesogastrium draws the human duodenum partially into the position found in later life, the position being altered, of course, by the upright position as mentioned above.

Histologically the first twelve inches of the small bowel varies markedly from the rest of the small intestine. In addition to villi, glands of Lieberkuhn and mucous secreting cells, it contains the glands of Brunner which extend to the duodeno-jejunal junction. These glands are thought to take part in carbohydrate digestion. They might be a causative factor in diabetes.

The first four inches of the duodenum has a quite different physiologic function to perform than has the second and third portions. It is linked to the pylorus and contains the entrance of the common bile duct and the pancreatic duct. It receives an acid chyme at its origin and an intensely alkaline secretion derived from the liver and pancreas at its termination.



Starling has shown that the duodenum contains glands which have the power of producing hormones known as secretin. This substance has been demonstrated to have the property of stimulating the pancreatic flow and it has intense acid neutralizing powers. It may also help in bringing about an equilibrium between normal and pathological conditions that may exist. Improper function of this substance would result in improper digestive ability on the part of the bile and the various enzymes of the pancreatic juice. This would produce a faulty fat transformation, failure of protein change, a flatulent state, intestinal indigestion, and consequently, a poorly nourished body.

Animal experiments by Maury<sup>3</sup> have shown that the first one-third of the duodenum is essential to life. If the biliary and pancreatic ducts are transposed to any other part of the tract death will result. Morehead and Landes<sup>4</sup> refuted the work of Maury. Mann and Kawamura experiments at Mayo Clinic arrived at conclusions similar to those of Morehead and Landes. However, clinical evidence such as a rapid heart, anuria, subnormal temperature, and symptoms of shock associated with acute duodenogastric dilatation suggests some truth in Maury's work.

The normal curve of the human duodenum is similar to the old English letter "C". Such a type rarely becomes dilated unless there exists a constrictive agent, such as an embryologic band or a developed adhesion. The other two forms of the duodenum are the "V" and "U" types each of which has pathologic possibilities. The "V" type on account of its low position with accompanying gastro-colonic ptosis may give rise to symptoms similar to chronic appendicitis. The ligament of Treitz fixes the duodeno-jejunal angle to the left crus of the diaphragm. The ordinary sweep of the jejunum into the left renal fossa produces a somewhat obtuse angulation of the small bowel. Should the duodenum drop directly down, an acute angulation occurs with a subsequent pathologic dilatation of the duodenum.

The above is a brief description of the

embryology, histology anatomy and function of the duodenum. From this one may understand the important factors that the duodenum plays in the life cycle and understand the importance of dilatation or any chronic condition that may impair the work of the duodenum.

The etiology of chronic duodenal dilatation is here listed according to frequency.

1. Ptosis of the transverse colon which may or may not be accompanied by gastric displacement.

2. A small bowel with short mesentery which prevents bony support in the pelvis for the intestines producing duodeno-jejunal constriction similar to that of chronic ptosis. Yet in addition to this there is a pull on the superior mesenteric vessels which causes constriction of the last one-third of the duodenum.

3. A jejunum dropping perpendicularly instead of having the normal sweep of the bowel into the left renal fossa. Such a direct drop produces a sharp angulation of the duodeno-jejunal angle.

4. Embryologic remnants of the gastro-hepatic omentum that passes from the pylorus to the gall bladder and under surface of the liver with a constriction of the first third of the duodenum as a result.

5. Developmental bands of adhesions from the transverse colon to the gall bladder, liver or pylorus, partially constricting the duodenum, the constriction of the adhesions in front acting with the vertebra behind as a resisting point.

6. Diverticula of the duodenum and other obstructing factors are not common.

7. Troubles at the head of the pancreas, such as cysts, hematomas, malignant growths and interstitial changes of the gland, which as it enlarges compresses the first and second portions of the duodenum.

8. Increased stimulation of the nerve supply of this portion of the intestine at times occurs as the result of pathologic conditions lower down. Such a nerve stimulation induces a colonic bandlike action on the part of the circular muscular fibers of the duodenum and if long continued produces dilatation.

## SYMPTOMATOLOGY

There is distress in the right half of the epigastric region, at first occurring nearly always from 3 to 4 hours after meals. This symptom becomes constant, varying only in degree of severity. There are belchings, accompanied by constipation, an irritable, rapid, irregular heart, headache, and scanty urine of high specific gravity.

The diagnosis of chronic duodenal dilatation is based on the clinical history with the above symptoms, plus *x-ray* examination. *x-Ray* pictures should be taken serially, ten to twenty minutes apart for an hour and then a six-hour picture taken in a prone, lateral posture. Hayes<sup>5</sup> found on deep percussion over the right rectus muscle a gas-like note when duodenal dilatation exists. A pressure pull may be made to relieve duodeno-jejunal constriction thus allowing the duodenal gas content to pass into the jejunum while listening with the stethoscope. Quimby<sup>6</sup> uses this in addition to Hayes' method to aid in diagnosis.

Dilatation of the duodenum obstructs the normal output of the glands of Brunner, which results in a faulty secretin development with a lack of alkaline neutralization, and hence indigestion, flatulence, toxicosis, cardiac, nerve, ocular, cerebral and renal troubles may result. The duodenum should not be forgotten in diagnosing chronic gastric trouble.

Chronic dilatation of the duodenum may result without any noticeable pathological changes either in the intestinal wall or surrounding tissues. This condition may be present in patients suffering from stomach, gall bladder or pancreatic disease or may result mechanically from peritoneal bands or from pressure at the terminal portion of the duodenum in cases of general enteroptosis. In some cases a satisfactory explanation may be lacking. The distention may extend throughout its entire course. The gut wall is not thickened and may be even thinner than normal. This form of chronic duodenal dilatation is without characteristic symptoms or physical signs. The *x-ray* may be of assistance.

Downs<sup>7</sup> found that the giant duodenum is similar in nature to the well known

megacolon of Hirschsprung. This condition occurs in young adults. None so far has been found in children. It presents a definite pathology as shown by extreme hypertrophy of the musculature of the intestinal wall. Symptoms, physical signs and *x-ray* findings are positive. The gut is probably normal at birth and the distention and hypertrophy result from a constriction at some point, usually the duodeno-jejunal junction. This constriction may be due to a congenital anomaly in the nature of a mesenteric band or to abnormal fixation of the terminal duodenum. It may result from enlarged mesenteric glands or inflammatory adhesions.

Symptoms of a giant duodenum are periodic attacks of vomiting, diarrhoea alternating with constipation, epigastric distention and a peculiar form of peristaltic waves situated to the right of the median line running from above downward and below upward. Belching of large quantities of sour-smelling gas and after lavage the presence of large quantities of food known to have been taken sometime previously are common signs. The *x-ray* will show a large dilated pouch just beyond the stomach.

Surgery offers the only possible means of relief in this class of cases and the choice of operation lies between gastroenterostomy with or without closure of the pylorus and duodeno-jejunosomy.

John E. Summers<sup>8</sup> thinks that the chronically dilated duodenum is more often due to inflammation of an affected gall bladder than any other cause. At operation a chronic dilatation of the duodenum is sometimes found when the pathology was thought to be a duodenal ulcer. W. J. Mayo in 1908 described the veil-like bands passing from the under surface of the meso-colon to the first coil of the jejunum, causing an angulation close to the ligament of Treitz, resulting in a wide dilatation of the duodenum. A hanging right colon, when overloaded, may and does sometimes obstruct the duodenum and cause its dilatation. Summers<sup>9</sup> does not think that you can separate with any assurance symptoms produced by a chronically dilated duodenum from those of gastro-duodenal ulcer or



infections of the gall bladder, unless it be by the *x*-ray. Probably a series of *x*-ray studies is the only reliable means of making a diagnosis by excluding pathology in the stomach, first part of the duodenum, gall bladder, diverticulum of duodenum and the vermiform appendix.

W. Howard Barber<sup>9</sup> of New York finds as a coincidence a dilatation of the duodenum and an iliac retention. At operation a dilated duodenum is often associated with a constriction or angulation or otherwise contracted caudad ileum. No attempt has been made to definitely show neuromuscular tone relationships between the duodenum and ileum in this respect.

Ochsner<sup>10</sup> holds that the duodenal sphincter may work in common with the ileo-caecal valve and the pylorus; that appendicitis stimulates the closure of the ileo-caecal valve giving rise to iliac retention and to closure of duodenal sphincters thus interfering with normal progress of food. In his study dilatation of the duodenum has been found greatest in the portion cephalad to the common bile duct.

Mr. Lane explains duodenal dilatation on a mechanical basis, thus: "The accumulation of material in a large prolapsed caecum may result in iliac delay and accumulation. The accumulation of the material in the small intestine drags upon and obstructs the duodeno-jejunal junction." In consequence the duodenum is elongated and dilated and especially in its first portion where it is free and surrounded by peritoneum.

The experiments carried out on dogs by Barber<sup>10</sup> show the following:

1. Incomplete obstruction of the extreme caudad ileum gives rise to dilatation and increased dilatability of the cephalad duodenum.

2. Complete obstruction of the caudad ileum gives rise to no apparent change or decreased dilatability of the cephalad duodenum.

3. Incomplete obstruction of cephalad colon gives rise to no apparent change in the duodenum.

4. An incomplete obstruction therefore permits free communication of the duodenal and caecal centers through

Auerbach's plexus, whereas a complete obstruction interferes with such relationships.

Douglas Vanderhoof<sup>11</sup> concludes that in chronic dilatation of the duodenum we have a clinical entity with a definite symptomatology and characteristic *x*-ray findings, due to compression of the terminal portion of the duodenum by the root of the mesentery. It is a feature of many cases of visceroptosis.

According to Bloodgood<sup>12</sup> dilatation of the duodenum may be divided into three groups as follows:

1. Dilatation associated with acute dilatation of stomach. This condition is often met with during the acute stages of typhoid fever, pneumonia, acute inflammatory rheumatism, etc. It is also a very common postoperative complication.

2. Chronic dilatation of duodenum. Clinically in this type gastric symptoms predominate, with vomiting and gastric residuum containing bile and duodenal contents. This may be caused by a pull of a dilated saecum displaced in the pelvis.

3. Dilatation of the duodenum after resection of the stomach. In these cases the gastric end of the duodenum is closed.

In the first two conditions there is at least temporary relief from washing out the stomach. In the third type gastric lavage has no effect.

#### TREATMENT

Treatment of chronic duodenal dilatation is medical, mechanical and surgical. The positive correction of this trouble is purely a surgical procedure.

The following may be given a trial. Rest in the recumbent position, and two hours after each meal have the patient assume the knee-hand position for 15 minutes. The patient then turns on his right side with hips elevated. The passage of the duodenal contents to the jejunum is stimulated instead of being emptied reversely into the stomach or remaining in the obstructed bowel. The patient should be given a well selected diet, which I will not describe in detail here. When he is allowed to get up, a mechanical support is applied before he

arises and while in the heel-shoulder position. Before meals the following prescription is given:

Tincture Belladonna—mijj

Tincture Nux vomica—mv

Tincture Cardamon—mxx

Water qs—dr i

After the ingestion of food one teaspoonful in half glass of water the following may be given:

Magnesium Oxide—dr iv

Sodium Bicarbonate—dr ii ss

Peppermint—H<sub>2</sub>O qs—dr iv

All this treatment is to be accompanied each morning by a stomach lavage with hypertonic salt solution.

The real curative method is surgical removal of the cause of obstruction whether it be embryologic or pathologic bands, colon or stomach displacement.

In gastro-colonic misplacement the Bayes Operation is useful. "Plication of the gastro-hepatic omentum, and reinforcement of it by utilizing the falciform ligament. The falciform and round ligaments are detached from their umbilical and abdominal wall attachments leaving the diaphragm and liver fixation points alone. This ligament is split and sutured with the raw surface downward, together with the round ligament, over the plicated gastro-hepatic omentum with No. 1 20 day chromic catgut. Adhesions should be dealt with according to their nature."

A cholecystectomy is indicated when a gall bladder is markedly thickened and adherent, and to avoid the reforming of adhesions. A developmental or congenitally dilated colon should be removed when co-existing with duodenal dilatation.

The logical course to pursue in all cases of widely dilated duodenum, as suggested by Bloodgood and followed by Stively in 1910, is to perform a duodeno-jejunostomy of the lateral opposed type, approximating the second third of the duodenum with the jejunum under the temporarily elevated transverse colon. A direct drain of the important first part of the duodenum occurs and avoidance of obstructed third part results with subsidence of duodenal toxicosis. A diseased appendix found at operation should be removed.

#### CONCLUSIONS

1. There is in all probability a chronic pre-existing duodenal dilatation in all cases of acute gastro-duodenal dilatation.
2. Gall bladder, gastric and colonic operations are not complete without the inspection of the first third of the duodenum, the lifting up of the transverse colon and investigation of the duodenum as well as the duodeno-jejunal fold.
3. Duodenal dilatation is a frequent and not a rare condition.
4. It is cured by proper operation.

#### DISCUSSION BY DR. ORR

Chronic obstruction of the duodenum is now recognized as a definite clinical entity with symptomatology sufficiently definite in many cases to make a positive diagnosis.

This subject has attracted much attention in recent years. In 1928 appeared Dr. E. P. Quain's translation of a book called "The Duodenum" written by Duval, Roux and Beclere of Paris. In this book is quite an exhaustive discussion of chronic duodenal obstruction, and I would recommend that you read it.

The symptoms may be quite definite or merely suggestive. This condition must especially be differentiated from gall bladder disease and peptic ulcer. If a patient complains of periodic attacks of migraine, nervous depression, malaise, loss of weight, upper abdominal pain followed by vomiting or perhaps diarrhoea, is pale and has a subicteric appearance, a chronic obstruction of the duodenum may be suspected. If the x-ray shows a dilated duodenum with active peristalsis and anti-peristalsis giving the duodenal contents a churning motion, the diagnosis is certain. Normally the duodenal food transit is very rapid, requiring about 8 to 10 seconds for its passage. Any delay is therefore suggestive of mechanical interference with emptying.

The treatment is, of course, surgical. The obstruction which is commonly in the third portion of the duodenum is best relieved by duodenojejunostomy, thus shunting the bowel content past the point of constriction. At times adhesive bands may be released which will relieve the condition.

This paper should impress you with



the importance of this subject. A knowledge of this condition in your future struggles with abdominal diagnosis will be much appreciated. Keep it in mind when you study patients with chronic disease within the abdomen.

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#### R

### Body Fluid Changes Due to Upper Intestinal Obstruction

Monroe A. McIver and James L. Gamble, Boston (J.A.M.A., Nov. 24, 1928), conclude from their observations from the study of body fluid changes due to upper intestinal obstruction that a continued loss of digestive secretions causes a rapid withdrawal of fixed base (chiefly sodium) and of chloride ion from the body, which is accompanied by a correspondingly extensive reduction in the volume of the blood plasma and of the interstitial fluids. There also occurs, depending on the relative amounts of sodium and of chloride ion lost, an alkalosis or an acidosis of varying degree. Continued reduction of the volume of the plasma and of the interstitial fluids must increasingly interfere with tissue respiration and with the transport of nutrient and of effete materials. Perhaps the most persuasive evidence that dehydration can be a directly fatal condition is the fact that death can be prevented and characteristic antecedent symptoms removed if the dehydration is adequately repaired by the subcutaneous administration of sufficient quantities of the lost material in the form of physiologic solution of sodium chloride. They regard the fatal effects of loss of the digestive secretions such as occurs in simple pyloric or upper intestinal blockage as the result of extensive withdrawal of inor-

ganic substances, chiefly sodium and chloride ion, from the blood plasma and the interstitial body fluids. This simple explanation is so sufficiently indicated by the data at hand as to make unnecessary the hypothesis of a toxin absorbed from the gastro-intestinal tract or of the loss in the digestive secretions of some vitally important organic substance. However, they regard other types of obstruction, the closed loop and obstruction with gross interference with the circulation, as representing quite different pathologic and physiologic pictures.

#### R

### Value of Active Immunization Against Scarlet Fever

Guy L. Kiefer, Lansing, Mich. (J.A.M.A., Dec. 15, 1928), discusses the value of active immunization against scarlet fever with examples of the experimental work carried on in schools and other institutions in Michigan. He presents the following problems for future investigation: (1) The toxin for skin testing must be held uniform and every effort should be made to develop methods of preparation and standardization so that we may be assured of a standard skin test dose. (2) The duration of immunity in relation to the amount of toxin given should be studied more carefully over a longer time. (3) Polyvalent toxins and antitoxins should be investigated more extensively.

#### R

### Cod Liver Oil

The discovery of at least two specifically potent food factors, vitamins A and D, in cod liver oil within comparatively recent years has completely altered the attitudes of scientific investigators, and laymen as well, toward this product that long had a place in dietotherapy on the basis of essentially empirically founded impressions. It is true that cod liver oil functions as a readily digested and utilized fat and thus as a source of energy; yet an ounce yields little more than 250 calories. So far as present knowledge is concerned, the vitamin content of cod liver oil constitutes its chief claim for consideration in treatment. (J.A.M.A., Dec. 29, '28.)

# THE JOURNAL

of the

## Kansas Medical Society

W. E. McVEY, M. D. - - Editor

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### THERE IS STILL HOPE

At this time it is impossible to predict the fate of the Basic Science Act (House Bill No. 455) now before the legislature. Some of the representatives reported to us as favorable to the bill, seem to be on the side of the opposition. On the other hand a number of representatives, concerning whom we have had no information from local men, are active supporters of the bill.

The opponents of the basic science act include osteopaths, chiropractors, their relatives and friends, and a good many others. They are making a hard fight. The legislators are being bombarded with telegrams, letters and petitions, and some of them are beginning to weaken a little. Most, perhaps all, of those who either before or after the election, definitely promised to support this bill will no doubt vote for it if they have to—that is if it ever gets to a vote. But if there happens to be a considerable number who now regret their promises, they may use their influence to have our bill so placed on the calendar that they will not have to vote at all.

This legislature, like all its predecessors, contains a good many members who want to please all their friends, and who regard such legislation as this as a special favor to those who ask for it. They apparently cannot be convinced that it is for the general public benefit. So when their friends are divided on the merits of the bill they have a hard time to decide how to vote. But fortunately they are not all of that type. There are a good many who are themselves competent to judge of the merits of a proposed measure and its effects upon the welfare of the people, and who will determine their actions by their own judgment. We have no fear of men of that type in this campaign.

In the early days of this campaign we adopted a principle enunciated by one of the early day politicians in the state: "Them that aint fer us is agin us." On this principle we unfortunately must include some of the members of the Society if we are to determine their attitude by the interest they have shown. We have learned that there has been some active opposition to the bill by a few, happily a very few, members of the Society. Upon what grounds they have justified this opposition we are unable to learn. There are occasionally men who seem to be constitutionally opposed to everything and we seem to have a few of that kind in the medical profession. However, we have no criticism for any one who conscientiously finds objections to this bill—except in the matter of his judgment.

Several changes were made in the original draft of the bill which has appeared several times in the Journal and copies of which have previously been mailed to every member of the Society.

The final draft of the bill is as follows:



## HOUSE BILL NO. 455

By Dr. McIlhenny

An Act creating a state board of examiners in the basic sciences underlying the practice of the healing art, providing for its organization and powers, and that certification by such board be a prerequisite to eligibility for examination for license to practice the healing art and defining healing art.

*Be it enacted by the Legislature of the State of Kansas:*

Section 1. No person shall be eligible for examination or permitted to take an examination for a license to practice the healing art or any branch thereof, or granted any such license, unless he has presented to the licensing board or officer empowered to issue such a license, a certificate of ability in anatomy, physiology, chemistry, bacteriology, pathology, diagnosis and hygiene (hereinafter referred to as the basic sciences), issued by the state board of examiners in the basic sciences.

Sec. 2. For the purposes of this act, any license authorizing the licentiate to offer or undertake to diagnose, treat, operate on or prescribe for any human pain, injury, disease, deformity or physical or mental condition is a license to practice the healing art.

Sec. 3. The state board of examiners in the basic sciences shall be composed of three members especially qualified and versed in one or more of the sciences set forth in section 1 hereof, who shall be selected from the faculties of the state educational institutions by the governor. The members of the board shall hold office for a period of four years from the date of their appointment and in the event of a vacancy in the membership of said board the governor shall fill such vacancy and the member appointed to such vacancy shall hold office for the unexpired term.

Sec. 4. The board shall meet and organize as soon as practicable after this act shall take effect. It shall have power to elect officers, to adopt a seal, and to make such rules as it deems expedient to carry this act into effect. The board shall keep a record of its proceedings,

which shall be *prima facie* evidence of all matter contained therein. Each member of the board shall receive ten dollars per diem and actual expenses, when actively engaged in the discharge of his duties. The compensation of the members and other expenses of the board shall be paid out of the fees received from applicants. The treasurer of the board shall give such bond, running in favor of the state, as the state treasurer shall determine. The office of the board shall be in the quarters assigned to the state board of health.

Sec. 5. The fee for examination by the board shall be fifteen dollars. The fee for re-examination within any twelve month period as hereinafter provided shall be five dollars, but the fee for re-examination after the expiration of twelve months shall be the same as the original fee. The fee for the issue of a certificate by authority of reciprocity on the basis of qualifications as determined by the proper agency of some other state, shall be five dollars. All fees shall be paid to the board by the applicant at the time of filing application. The board shall pay all money received as fees into the state treasury, to be placed in a special fund to the credit of the board. The auditor of state is hereby authorized to draw his warrant upon the treasurer who shall pay out of such fund all expenses incurred by the board, on vouchers signed by the president and the secretary of the board.

Sec. 6. The board shall conduct examinations at such times and places as it deems proper. Every applicant shall be examined to determine his knowledge, ability and skill in the basic sciences. The examination shall be conducted in writing, but may be supplemented by an oral examination and by such laboratory or practical tests or examinations as the board may require. The standards of proficiency to be attained by the applicant in such an examination, the right to re-examination in the event of failure to pass such examination and all other matters pertaining to such an examination shall be determined and prescribed by rules to be adopted by the board.

Sec. 7. No certificate shall be issued

by the state board of examiners in the basic sciences unless the person applying for a certificate submits evidence satisfactory to the board: (1) that he is not less than twenty-one years of age; (2) that he is a person of good moral character; (3) that he was graduated by an accredited high school or school of similar grade, or possessed educational qualifications equivalent to those required for graduation by such an accredited high school, before he began the study of the healing arts, and (4) that he has a comprehensive knowledge of the basic sciences as shown by passing the examination given by the board, as by this act required.

Sec. 8. The state board of examiners in the basic sciences may in its discretion waive the examination required by section 7, when proof satisfactory to the board is submitted, showing that the applicant has passed the examination in the basic sciences before a board of examiners in the basic sciences or a board authorized to issue licenses to practice the healing art, in another state, when the requirements of that state are, in the opinion of the board, not less than those provided by this act. The provisions of this section shall apply only to examinations conducted by the boards or officers of states that grant like exemptions from examinations in the basic sciences to persons granted certificates by the board of this state.

Sec. 9. Any applicant who has been denied examination by the board may within thirty days after such denial appeal to the district court for the county in which the board has its office; and such court shall on such appeal inquire into the cause of such denial. If in the opinion of the court admission to examination was refused without just cause, the court may order the board to examine the applicant. Notice of an appeal from the order denying the right to examination shall be given by serving a copy of such notice upon any member of the board or by leaving such a copy with any adult member of his household, or at his usual place of business.

Sec. 10. Any basic science certificate and any license to practice the healing

art or any branch thereof which is issued contrary to this act shall be void. A board which has issued a license by virtue of a void basic science certificate shall revoke or cancel such license. The procedure in such revocation or cancellation shall be in accordance with the provisions of the act under which such license was issued, for the cancellation or revocation of licenses generally. The certificate issued to any person by the state board of examiners in the basic sciences shall be automatically revoked by the revocation of any license issued to such person to practice the healing art or any branch thereof.

Sec. 11. Any person who shall practice the healing art or any branch thereof without having obtained a valid certificate from the state board of examiners in the basic sciences, except as otherwise authorized by this act, shall be fined not more than one hundred dollars or imprisoned for not more than 30 days, or both, in the discretion of the judge.

Sec. 12. Any person who shall obtain or attempt to obtain a basic science certificate by any dishonest or fraudulent means, or who shall forge, counterfeit or fraudulently alter any such certificate, shall be fined not more than five hundred dollars, or imprisoned not more than 12 months or both, in the discretion of the judge.

Sec. 13. Any person who shall obtain or attempt to obtain a license to practice the healing art or any branch thereof from any board authorized to issue any such license, without presenting to said licensing board a valid certificate issued by the state board of examiners in the basic sciences, as in this act required, shall be fined not more than five hundred dollars or imprisoned not more than 12 months, or both, in the discretion of the judge.

Sec. 14. Any person who knowingly issues or participates in the issuance of a license to practice the healing art or any branch thereof to any person who has not presented to the licensing board a valid certificate from the state board of examiners in the basic sciences, or any person who has presented to such licensing board any such certificate obtained



by dishonesty or fraud, or any forged counterfeit certificate, shall be fined not more than five hundred dollars, or imprisoned not more than 12 months, or both, in the discretion of the judge.

Sec. 15. Any money paid out by any person as compensation for services rendered in the practice of the healing art or any branch thereof to any person not validly licensed to practice such healing art or branch, when the payor did not know that such person was not validly licensed to practice, may be recovered by the person who has paid such money by a suit instituted within two years from the date when such fee or compensation was paid.

Sec. 16. The state board of examiners in the basic sciences and the various boards authorized to issue licenses to practice the healing art or any branch thereof shall investigate any supposed violation of this act and report to the proper county attorney all the causes that in the judgment of such board warrant prosecution.

Sec. 17. This act shall not be construed as applying to dentists, nurses, or optometrists, practicing within the limits of their respective callings; nor to other persons licensed to practice the healing art or any branch thereof in this state when this act takes effect; nor to persons who endeavor to cure or prevent disease or suffering by spiritual means or prayer as part of the practice of the religious tenets of any church; nor to persons specifically permitted by law to practice without licenses, practicing within the limits of the privileges thus granted them.

Sec. 18. No provision of this act shall be construed as repealing any statutory provision now in force at the time of its passage with reference to the requirements governing the issuing of licenses to practice the healing art or any branch thereof; but any board authorized to issue licenses to practice the healing art or any branch thereof may in its discretion accept certificates issued by the board of examiners in the basic sciences in lieu of examining applicants in such sciences or may continue to examine applicants in such science as heretofore. The unconsti-

tutionality of any part of this act shall not be construed as invalidating any other part thereof.

Sec. 19. This act may be cited as "basic science act, 1929."

Sec. 20. This act shall take effect and be in force from and after its publication in the statute book.

The House committee amended section 1 by striking out the word "diagnosis", otherwise there have as yet been no further changes. Of course there may be other amendments made before final action is taken. It is needless to say the medical men in the legislature are giving us their most loyal support, they are doing everything possible to carry this measure through.

#### PHYSIOTHERAPISTS?

An attempt to foist upon the state another licensed cult was frustrated by the Committee on Health and Hygiene. This bill, House Bill No. 320, was designed "to create a state board of physiotherapy and examination; regulating the practice of physiotherapy in the State of Kansas; providing for the licensing of physiotherapists and prescribing penalties for the violation thereof."

It provided that the board should consist of three members appointed by the Governor from a list of names of those then engaged in the practice of physiotherapy in this state and *who are members of the Kansas State Physiotherapy Association, Inc.*

It further provides that all examinations shall be written in the English language, the subjects of which shall be as follows: Anatomy, physiology, hygiene, pathology, symptomatology and diagnosis, physiological chemistry and toxicology, obstetrics, minor surgery, dietetics, hydrotherapy and electrotherapy *as commonly taught in schools of this branch of the healing art.* Then there is a proviso that the board shall accept a

"physician's certificate, *issued by a reputable school of physiotherapy* to a graduate from a chartered school of medicine, osteopathy, or chiropractic, *after an attendance in a physiotherapy school or college of good repute*, of not less than one term of three months."

The applicant is required to show that he is a graduate of a chartered school or college of physiotherapy or drugless therapeutics which teaches a resident course of not less than three years of nine months each.

Section 5 defines the meaning of a physiotherapy school or college of good repute as follows:

"The words 'physiotherapy school or college of good repute,' wherever used in this act shall be deemed and taken to include only such schools or colleges of physiotherapy as are legally incorporated, and which prescribe a course of study covering the time provided for under the provisions of this act, and which shall instruct in all the branches of study in which examinations are required, and which shall require the personal attendance of the student throughout the course, the requirements of *which course shall be in no particular less than those prescribed by the Kansas State Physiotherapy Association.*"

Then in Section 11 physiotherapy is defined as follows:

"For the purposes of this act, physiotherapy or physical therapy, including the systems of hydrotherapy, electrotherapy, naturopathy, dietetics, massage and manipulative procedures, shall be understood as comprising a definite part of the practice of the healing art, *but shall not be regarded as constituting any part of the practice of medicine*; but is hereby defined to be that branch of the healing art which makes use of the natural forces and forms of energy, includ-

ing air, light, heat, electricity, water, food, and corrective manipulations of all kinds, applying them to the human body by various agencies, for the purpose of restoring normal conditions of health."

Kindly note that the methods of treatment included under the head of physiotherapy shall not be regarded as constituting any part of the practice of medicine, then note the provision of Section 12 that this act shall not be construed as applying to persons licensed to practice the healing art or any branch thereof, *within the limits of their respective professions*, as prescribed by the laws of the state. And Section 13 that all acts and parts of acts so far as they are in conflict herewith are hereby repealed.

It looks very much like it was the purpose of this bill not only to license a new cult in the state but to prohibit doctors of medicine using any of the methods included under the name of physiotherapy. This seems to have been cleverly disguised but no doubt an attempt would have been made to enforce such a restriction if the bill had passed.

#### OPENING THE HOSPITALS

A bill was introduced by Rep. Morris of Jefferson which would relieve hospital managements of the unpleasant duty of excluding practitioners for any reason whatsoever, but would not relieve them of the responsibility for the character of service rendered—a moral if not legal responsibility.

The text of the bill is as follows:

#### HOUSE BILL NO. 442

An Act relating to public hospitals, defining such hospitals and providing for admission of physicians and surgeons thereto, and providing penalties for the violation of this act.

*Be it enacted by the Legislature of Kansas.*

Section 1. Every hospital which is exempt from taxation under section 79-201



of the Revised Statutes of 1923, or which is supported in whole or in part by public contributions or donations is hereby declared to be a public hospital, within the meaning of this act.

Sec. 2. It shall be unlawful for any person or persons having charge or control of any public hospital, as defined in this act, to refuse admission thereto to any physician or surgeon, who is licensed by the state board of medical registration and examination, for the purpose of treating or operating upon patients therein, and such hospitals shall be open to such physicians and surgeons at all times.

Sec. 3. Any person violating any of the provisions of this act shall, upon conviction, be deemed guilty of a misdemeanor, and shall be punished by a fine not exceeding five hundred dollars (\$500).

Sec. 4. This act shall take effect and be in force from and after its publication in the statute book.

As will be noted this bill does not compel the admission of osteopaths, chiropractors and other cults, but it compels the admission of all those who have been licensed by the state board of medical registration and examination. Unfortunately it has been necessary, in order to maintain their good reputations and ethical standing, for some of the hospitals in the state to exclude some registered men. To take this privilege, which is also a duty, away from the hospitals would be calamitous.

But there is another side to the matter that deserves some consideration. Most all of the hospitals have been impressed by the vigorous activity of the College of Surgeons in the matter of standardization. Since one of the requirements is a closed staff, the observance of this requirement has in some instances worked a hardship on some ethical and competent practitioners. It hardly seems necessary, however, for the legislature to attempt to control the situation, for it

can be adjusted without legislative interference. County medical societies are in position to protect all those whose professional integrity is established. In many counties membership in the county society is accepted by the hospitals as sufficient recommendation. If a man is inadmissible to the county society the hospitals naturally suspect there is some reason, and that reason, whatever it might be, is sufficient to exclude him from the hospital.

There is still another circumstance that deserves consideration. While some of the hospitals refuse to admit physicians who are not affiliated with the county society they do not admit all members of the society. It does seem that if the hospitals insist upon society membership as a standard of qualification for admission one having gained such membership should be admitted to the hospital.

In some cities where there are several hospitals such regulations have been adopted. Every member of the county society is a member of the courtesy staff of all the hospitals, but by the society's regulation no member shall hold a place on the executive staff of more than one hospital.

—————R—————

### CHIPS

Dr. J. T. Scott of St. John is preparing a series of lectures on physical therapy, ten to twenty hours altogether, which he intends to give to classes of four or more, in any county where there is a medical society. He says the price will be nominal, and in this way the instruction will be brought to the doctor. Dr. Scott is competent to give this instruction and the county societies should avail themselves of this opportunity.

It seems now that oranges are sometimes a source of disease in man. Sutherland Campbell, in the Archives of Dermatology and Syphilology, February, 1929, reports some cases of paronychia in boys who were engaged in squeezing the

juice out of cull oranges, for commercial purposes. The pulp of these oranges becomes infected with a yeastlike organism and those whose hands are frequently in contact with the pulp or juice become infected. Dr. Ayers in discussing this subject suggested that the occurrence of urticaria in orange workers who eat large quantities of the fruit might have some connection with this organism when introduced into the gastro-intestinal tract.

The cardiovascular problem in pneumonia is discussed by Randolph in the Archives of Internal Medicine, February, 1929. In reference to the use of stimulants he says: "Of the benefit derived from whisky, I have a definite empiric conviction. Its good effect does not appear in all cases. It is valuable for elderly persons; for those habituated to its use it is more so. I am unable to explain entirely its physiologic action. Its hypnotic action in a disease in which rest and sleep are so important is undoubtedly valuable, often lessening the need of opium derivatives. It induces a sense of comfort and serenity in the patient, which is not a handicap in the fight with the disease. Its food value may be a factor, but the quantity administered seems too small for this to explain the whole matter. A definite beneficial effect on the pulse is often noted. A fuller, softer, more adequate beat replaces the irritable subtonic one. In spite of the myriads of pages written on the subject of alcohol, there may still be something to learn about it."

Balkovsky of Leningrad has used what is called "opsonized" salicylate in the treatment of rheumatic fever. His method is to draw into a 20 cc record syringe 5-8 c.c. of a sterile 20 per cent solution of salicylate of soda, then into the same syringe draw 8-10 c.c. of blood from the median basilic vein of the patient, leaving the needle in the vein, and after three or four minutes the contents of the syringe are reinjected into the vein. This treatment was very successful with thirty-five soldiers suffering from polyarthrititis. The dose was repeated daily or every two or three days accord-

ing to the severity of the case. There were no reactions, provided none of the solution leaked into the subcutaneous tissues. Some recovered after one or two injections, others required eight or twelve. All recovered without incident. Improvement was marked on the second day and there were no relapses during the period of observation.

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### Committees

The following committees for the Kansas Medical Society are appointed for the year 1929:

#### *Committee on Public Health and Education*

Earle G. Brown, M.D., Chairman, Topeka.

J. T. Axtell, M.D., Newton.

H. E. Haskins, M.D., Kingman.

Geo. I. Thacher, M.D., Waterville.

J. E. Wolfe, M.D., Wichita.

L. B. Gloyne, M.D., Kansas City.

#### *Committee on Public Policy and Legislation*

W. S. Lindsay, M.D., Chairman, Topeka.

C. S. Huffman, M.D., Columbus.

Karl A. Memminger, M.D., Topeka.

L. F. Barney, M.D., president, Kansas City.

J. F. Hassig, M.D., Secretary, Kansas City.

*Committee on School of Medicine*  
Alfred O'Donnell, M.D., Chairman, Ellsworth.

L. G. Allen, M.D., Kansas City.

J. T. Scott, M.D., St. John.

H. J. Duval, M.D., Hutchinson.

F. A. Trump, M.D., Ottawa.

*Committee on Hospital Survey*  
Geo. M. Gray, M.D., Chairman, Kansas City.

David W. Basham, M.D., Wichita.

W. M. Mills, M.D., Topeka.

*Committee on Medical History*  
W. E. McVey, M.D., Chairman, Topeka.

W. S. Lindsay, M.D., Topeka.

O. D. Walker, M.D., Salina.

*Committee on Scientific Work*  
J. F. Hassig, M.D., Chairman, Kansas City.

L. S. Nelson, M.D., Salina.



H. T. Jones, M.D., Lawrence.

*Committee on Necrology*

E. E. Liggett, M.D., Chairman, Oswego.

W. E. McVey, M.D., Topeka.

J. F. Hassig, M.D., Kansas City.

—R—

## SOCIETIES

### CLAY COUNTY SOCIETY

The following strong program of the Clay County Medical Society was well attended at its meeting at the Clay Center Municipal Hospital, Feb. 13, 8 p. m.: "Some Considerations of Gall Bladder Disease"—Dr. C. O. Anderson, Concordia, Kan.

"Pyonephrosis"—Dr. Francis M. McCallum, Kansas City, Mo.

Other visiting doctors present at the meeting were Dr. Joe Chestnut of Wakefield and Major C. A. Shepard, Major P. R. E. Sheppard, Major D. F. Wimm and Captain E. J. Strickler all of Fort Riley, Kan.

X. OLSEN, Secretary.

### STAFFORD COUNTY SOCIETY

Society met in St. John Thursday evening, Feb. 14, with a near 100 per cent attendance. There were present Drs. F. W. Tretbar, J. J. Tretbar, T. W. Scott, W. L. Butler, Stafford; M. M. Hart, Macksville; R. E. Stivison, L. E. Mock, J. T. Scott, St. John; and a guest, Dr. Boyce.

Dr. J. J. Tretbar read a paper on Influenza which was instructive and discussed by every member.

Dr. J. T. Scott read a short paper on Composite Diet Lists and exhibited copies of the lists, which received favorable comment. The next meeting will be held on the second Thursday evening in March at St. John. Dr. J. J. Tretbar will read a paper on Tuleremia.

Old King Cole was a merry old soul,

As happy as he could be;

He called for his pipe, he called for his bowl,

He called for his fiddlers three.

You are not a King, you'll ne'er be a King

But can be as happy as he,

If you'll resolve, through the year  
twenty-nine,

To attend your Society.

J. T. SCOTT, Secretary.

—R—

## Influenza

J. R. SCOTT, M.D., Ottawa

Read at the Annual Banquet of the Franklin County Society, Jan. 30, 1929.

In the age when man's religion  
Was formed by priests and kings,  
They used an apparatus  
Made of levers, wheels and rings.  
And when a man perused the Word  
And had some thoughts a slant,  
The ghostly fathers summoned him,  
Requested he recant.  
And if his soul was craven,  
He could escape the rack  
By saying that he greatly erred  
And take his thoughts all back.

Those times have changed, men think and speak  
What e'er may be their bent.  
The thing that troubles people now  
Is how to pay the rent.  
The modern torture chamber has  
No engines, for such terms  
Are now displaced by tinier things,  
These microspores, called germs.  
Mankind has grown wondrous kind  
Since those good days of yore,  
But nature, if he disobeys  
Still evens up the score.  
We think we bear a charmed life  
Because forsooth she's slow,  
Then suddenly requital comes,  
The victim is laid low.

Remorse or recantation foul  
The flu won't mollify,  
Nor will the anguish soften  
By prayer, curse or sigh.  
Each muscle and each quivering nerve  
Becomes a harried lane,  
Throughout the flesh from crown to sole  
Dart lancing pain.  
The mighty man is shorn of strength,  
The strong one is laid low,  
And oft is heard throughout the land  
The muffled tread and slow.  
And then when convalescence comes  
It is not safe to roam,  
Catarrhal Pneumonitis dread  
May mean a summons home.  
The heart that once a joy and pride  
Grows faltering and weak,  
Air hunger should admonish one  
Long rest in bed to seek.  
And kidneys once perfection's own,  
Become degenerate.  
Albumen, casts of several kinds  
Their troubles designate.

And ears that heard a whisper  
Soft and zephyr like in tone,  
Are stopped, yet always humming  
Like bees that flying drone.  
A bad one of these sequels  
Is this mastoiditis thing,  
For it starts the head to aching,  
It will cause the ear to ring.

And when one sought oblivion  
 And the surgeons had him down,  
 He's back with damaged contour  
 And a sore and weary crown.

This evil, Influenza,  
 Has no respect for rank.  
 Attacks the high and lowly,  
 The sanest or the crank.  
 It's genesis, we only guess,  
 Plan of attack or law,  
 But we know as a contender  
 It seldom has a draw.

—————R—————

**Making the Crinoline Strips for the Plaster-of-Paris Bandage, When the Crinoline Comes in Bolts, Also Convenient Reinforcement Board**

E. T. HIER

Operating Room Orderly, Bell Memorial Hospital,  
 Kansas City, Kansas.

Plaster-of-Paris bandages are often bought already made, but in many hospitals the bandages are made by hand. When the bandages are made by hand, crinoline strips and the bulk plaster are used.

These bandages are made by tearing the crinoline into strips of the desired width then uniformly spreading the plaster on these strips. It has been found that if about three threads are pulled from each side of the crinoline strip, the bandage is more easily handled when applied in making the cast.

The crinoline usually comes in large bolts and is rather awkward to handle. Our usual procedure, in making the strips, was to unroll the desired length, about 15 feet, and to have an assistant take the loose end and walk the length of the strip, until the crinoline is taut. Then I myself catch hold of the crinoline and exchange places with the assistant. As we continue to exchange places the crinoline is doubled upon itself and the bolt is soon unrolled into strips of the desired length. The ends are then cut, making single wide strips. These wide strips are snipped at widths of, generally 3, 5, 6, 8, 10 inches and are torn.

In this process of unrolling the crinoline, the bolt hops about and not only clutters up the whole room, but oftentimes wrinkles the crinoline. The manner in which I eliminate a great deal of this confusion is by using an ordinary irrigation or hypodermoclysis standard. I

first remove the extension portion of the standard and place the entire bolt over the upright remaining part, thus making the standard act as a spindle. If the standard is light in weight I anchor one of the legs with a sand bag.

Then with the aid of an assistant we make the strips, by exchanging places as formerly described. We are able to do the work in about half the time and almost all stopping is eliminated.

A CONVENIENT REINFORCEMENT BOARD

When a single reinforcement board is used to make all the various lengths of plaster splints, it necessitates a length that is very bothersome and inconvenient to clean. I eliminate a great deal of this awkwardness by cutting the board into halves and placing two or three small hinges on the underside. This enables the board to be doubled up when not in use or while being cleaned and by the shoulders pressing together makes a rigid board while in use.

—————R—————

**DEATHS**

Cyrus Elbert Hunt, Wichita, aged 88, died January 6 of pneumonia. He graduated from Detroit Medical College in 1870. He was a Civil war veteran.

Andrew Engberg, McPherson, aged 66, died January 10 at the Providence Hospital, Detroit, of pneumonia. He graduated from Bellevue Hospital Medical College in 1886. He was past president and secretary of the McPherson County Society.

Geo. W. Lee, Yates Center, aged 61, died January 19, at St. Francis Hospital, Wichita, of broncho pneumonia following influenza. He graduated from Marion-Sims College of Medicine in 1892; College of Physicians and Surgeons, Keokuk, Iowa, 1894.

Laurence Theodore Smith, Newton, aged 62, died February 6. He graduated from Northwestern University Medical School, Chicago, in 1898. He was a member of the Society.

Henry Plumb, Pleasanton, aged 92, died January 4 at Ormond, Florida, of valvular heart disease. He graduated from Yale University School of Medicine in 1861.



## MEDICAL SCHOOL NOTES

Dr. Logan Clendening, whose recent book "The Human Body" has become the best seller, is writing a series of articles for the Kansas City Journal-Post on the same subject. Dr. Clendening is Clinical Professor in Medicine at the University of Kansas Medical School.

Dr. Nelse F. Ockerblad attended the meeting of the Chicago Urological Association on January 24. Dr. Ockerblad read a paper on "Clinical Problems in Urology."

Dr. Ralph H. Major read a paper on "Observations on the Etiology and Treatment of Arterial Hypertension" before the Chicago Medical Society on January 9.

Drs. R. L. Hoffman, C. K. Smith and Nelse F. Ockerblad attended the meeting of the Southwest Branch of the A. U. A. which was held at Hot Springs, Arkansas, December 7 and 8. Dr. Smith was elected president of this association at this meeting. Dr. Ockerblad was president for the year 1928.

Dr. Edward L. Saylor '25, accepted a position in the Pathology Department of the Henry Ford Hospital, Detroit, Michigan.

Dr. Ben Morris, '25, recently visited the Bell Memorial Hospital. Dr. Morris is located at Quinter, Kansas.

The following senior students have been appointed as interns in the Bell Memorial Hospital for the year 1929-1930: Galen M. Tice, Robert W. Shaw, H. Preston Palmer, Mark D. Ballard, Paul E. Davis, Alfred S. Hawdey.

Dr. J. C. Rodick, Radiologist at the Bell Memorial Hospital, was married at his home in New Orleans, Louisiana, on December 20.

Dr. Thomas G. Orr talked before the members of the Academy of Medicine, Terre Haute, Indiana, February 1. His subject was "Application of Experimental Results in the Treatment of Intestinal Obstruction."

Dr. H. R. Wahl and Dr. Ralph H. Major attended the meeting of the Council of Medical Education and Hospitals of the American Medical Association, February 18-19, at Chicago. Dr. Major

read a paper on "The Teaching of Medicine" at this meeting.

Dr. Irwin S. Brown, '24, is taking post-graduate work at the Brady Urological Institute under Dr. Hugh Young, and will return to Kansas City at the completion of his work.

Dr. George B. Arnold, '26, who has been ill at the Research Hospital suffering from sub-diaphragmatic abscess and empyema following appendectomy, is gradually improving.

At the January meeting of the staff of Bell Memorial Hospital the following officers were elected: Dr. Nelse Ockerblad, president; Dr. Lawrence P. Engel, vice president; Dr. Earl C. Padgett, secretary-treasurer.

Doctors Andrew Fowler, J. Ross MacKenzie, and Alex Mitchell of Aberdeen, Scotland, visited the University of Kansas School of Medicine and the Bell Memorial Hospital, Kansas City, Kansas, February 18, 19 and 20. These doctors are touring the United States, visiting the well known hospitals and medical schools. They were the house guests of Dr. and Mrs. C. B. Francisco while in Kansas City.

## R BOOKS

Spinal Anesthesia, principles and technique, by Charles H. Evans, M.D., Clinical Assistant Post-Graduate Medical School and Hospital, New York. Published by Paul B. Hoeber, Inc. Price \$5.50.

In this work the author has given a survey of the literature on the subject of spinal anesthesia and has presented his own personal experience. In his judgment this method of anesthesia is not only safe but is the most satisfactory for certain surgical procedures. The technique is becoming standardized and the drugs employed are becoming scientifically classified. Good judgment must be used in the selection of patients.

Clinical Neurology, a textbook for students and practitioners by M. Neustaedter, M.D., visiting neurologist, Central Neurological Hospital, Welfare Island, New York. Published by F. A. Davis Company, Philadelphia. Price \$6.00.

In preparing this book the author has endeavored to facilitate diagnosis by those whose experience with diseases of the nervous system is limited. Symptom-complexes are used for chapter divisions

and under these heads are discussed the various diseases exhibiting them. Symptoms are described first, then is given the etiology, pathology and diagnosis. The work is largely based on the author's own investigations and experience.

*The Infant and Young Child.* Its care and feeding from birth until school age. A manual for mothers. By John Lovett Morse, M.D., Edwin T. Wyman, M.D., and Lewis Webb Hill, M.D., of Harvard Medical School and Children's Hospital, Boston, Mass. 12mo of 299 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1929. Cloth \$2.00 net.

Of course mothers ought to be taught how to raise their children, especially young mothers—old ones cannot be taught much. There are lots of people who feel that way and are trying to do it, some of them know what they are doing and more of them just think they know. Of course these men from Harvard are prepared to give the proper instruction and it is to be hoped that this little book will get into the hands of those who need it. When doctors have occasion to recommend a book of this kind they should select one written by authorities on the subject—medical authorities of course.

*Angina Pectoris* by Harlow Brooks, M.D., Professor of Clinical Medicine, New York University, etc., 176 pages. Price \$2.50. Harper & Brothers Publishers, New York City.

The author has discussed the etiology, so far as it is known at the present time and has given careful consideration to the pathology, and pathologic physiology as developed from his observations. Symptomatology, including obscure types of the syndrome, differential diagnosis, especially between true and false angina, and detailed treatment are presented clearly and comprehensively. The book is not a review of the literature already published but is a thorough study of the subject from the consulting physician's viewpoint. He lays particular stress on the treatments which should be given in these cases and under certain conditions.

### Council Accepts Optochin

In compliance with the request of the Council on Pharmacy and Chemistry the name "Numoquin" has been changed to "Optochin."

Optochin is used not only in the treat-

ment of pneumonia but also in such conditions as pneumococcic meningitis and pneumococcic serpiginous ulcers. In the treatment of pneumonia it is administered by mouth.

The theory upon which the treatment of pneumonia with Optochin Base is founded has evolved from the results obtained by a large number of investigators, and is outlined as follows:

The maximum bactericidal power of the remedy must be maintained continuously for a definite period—1 to 3 days—employing the minimum quantity of the remedy necessary for the purpose. It was found in practice that, provided Optochin Base is used, and given in doses of 4 grains every 5 hours, day and night, and further, provided the treatment is begun within 24 hours, or at least not later than the second day after the onset of the disease, the results are all that could be wished. The fever abates rapidly, the course of the disease is shortened and rendered milder, and the patients experience a sensation of euphoria, while the appetite and general condition improve.

The base is used because, being practically insoluble in water it is but slowly taken up into the blood circulation. With every dose of Optochin Base about 5 ounces of milk are given. The milk prevents the too rapid formation of the more soluble Optochin Hydrochloride by the action of the hydrochloric acid secreted and thus assists in maintaining a uniform optimum concentration of the remedy in the blood. No other food or drink is given during the 3 days' treatment.

—R—

### American College of Physicians

The American College of Physicians will hold its Thirteenth Annual Clinical Session in Boston, April 8-12. Dr. Charles F. Martin, dean of the faculty of medicine, McGill University, is president of the college this year, and Dr. John H. Musser, professor of medicine at Tulane University Medical School, is president-elect and will be inducted to the presidency toward the end of the Boston meeting. Dr. James H. Means, Jackson, professor of clinical medicine at Harvard



Medical School and chief of the medical service at the Massachusetts General Hospital, is general chairman of all Boston committees having charge of arrangements for the clinical session of the college in April.

The program provides hospital visits, clinics, demonstrations and ward-walks during the forenoons at fifteen different Boston hospitals, and for general scientific sessions each afternoon and evening in the assembly room of the Hotel Statler, which will be headquarters. Eminent authorities in their special lines will present the results of their work before an audience competent to appreciate the value of the contributions.

A symposium on Deficiencies will take place the first evening of the session, and will be of particular interest because of the fact that deficiencies are nowadays assuming a far more widespread and important role than had heretofore been anticipated. They have come into their own as factors producing acute and chronic disease on a par perhaps with infections. The committee has secured for the program men who can speak with authority on a variety of aspects of this important subject.

Another special feature is a review of the present status of vaccine and serum prophylaxis and therapy, designed to give the internist a rapid survey of the field. The speaker, Dr. Benjamin White, of Boston, is an authority on these subjects and can give the high spots in rapid and yet forceful fashion.

The annual banquet of the college will be held Thursday evening, April 11, when George E. Vincent, president of the Rockefeller Foundation, will deliver the chief address. The convocation, for the conferring of fellowships, will take place Friday evening, April 12. Dr. Charles F. Martin, of Montreal, will deliver the presidential address.

Programs and details concerning reduced fares, admission, etc., may be secured from the executive secretary, E. R. Loveland, 133-135 S. 36th street, Philadelphia, Pa.

### Missouri-Kansas Neuropsychiatric Society

The regular bi-monthly meeting of the Missouri-Kansas Neuropsychiatric Society was held at the University Club, Kansas City, Mo., on February 11, 1929. Dr. Karl Menninger, of Topeka, retiring president, gave the presidential address on "A New Classification of Personality Types." Dr. William Menninger presented the case, with autopsy material, of a frontal lobe neoplasm. Officers for the year 1929 were elected, as follows: president, Dr. E. T. Gibson, Kansas City; vice president, Dr. M. L. Perry, Topeka; secretary-treasurer, Dr. Forrest N. Anderson, Kansas City.

FORREST N. ANDERSON, Sec.

R

### Iodide and Health

The extensive use of iodine in the prophylaxis of goiter has focused attention on the possible physiologic consequences of prolonged administration of this element. Hanzlik and his co-workers have made observations on rats. To an otherwise adequate ration, sodium iodide was added in amounts that corresponded to 3.3 mg. daily per kilogram throughout the major part of the life of the rats. This dosage would correspond to about 0.23 Gm. daily for an adult of 70 Kg. It was found that the continued administration of iodide in small daily doses in foods over long periods caused moderate though variable increases in weight and growth of the body in the majority of animals. The same tendency was indicated in rats on a deficiency diet. In contrast to the results obtained with iodide were those with sulphocyanate, bromide, arsenic, thallium and manganese. From these experiments there is no reason to believe that the prolonged use of iodide in small doses under ordinary conditions is detrimental. Hanzlik warns, however, that this would not apply to the continued use of iodide in specific conditions of the thyroid, or to large doses of the drug. (J.A.M.A., December 1, 1922, p. 1720).

R

### Health Appeal

The advertising writers of our progressive land have found the word "IT" in their profession means "Health Ap-

peal." A cursory inspection of current periodicals indicates no lessening of the attention to the health angle. The folly of the all-or-nothing policy in foods, the ridiculousness of some of the arguments as to vitamin content, the reposterous claims for glorified antiseptics, the cautious venturings of time-tried tonics into the public field, and the dazzling claims of the promoters of light arouse the risibilities of the physician by their startling inconsistencies if not by their exaggerations. Who would have thought ten years ago that cigarettes would be sold to the American public by insistence on the healthful qualities of certain brands? The manufacturers of Lucky Strike cigarettes are promulgating a campaign in which they assert that these cigarettes do not cut the wind or impair the physical condition, and that "Lucky Strike satisfies the longing for things that make you fat without interfering with a normal appetite for healthful foods." The human appetite is a delicate mechanism and the attempt to urge that it be aborted or destroyed by the regular use of tobacco is essentially vicious. (J.A.M.A., December 8, '28).

### RELAXATIVES

✦ ✦ ✦

A grammar-school boy handed in the following composition on "cats."

"Cats that's meant for little boys to maul and tease is called Maultese cats. Some cats is reckernized by how quiet their purrs is and these is named Purrsian cats. The cats what has very bad tempers is called Angorie cats, and cats with deep feelins is called Feline cats. I don't like cats."—Church Life.

Henry Ford, who is getting together pharmacy antiques for his museum, to show what the drug-stores of other days were like, might include a couple of drugs in the lists of exhibits.—Chicago Evening Post.

Husband: "That was wonderful medicine you gave my wife."

Druggist: "That so?"

Husband: "Yes; it was the only thing I ever saw that dared to disagree with her."

### REPRINTS

Reprints of original articles will be furnished the authors at the following rates, if the order for same is received within fifteen days after the Journal is mailed. These prices are based on the number of pages of the Journal the article occupies:

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# THE JOURNAL

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### Narcotic Drug Addiction

FORREST A. KELLEY, M.D., Winfield

Read before the Kansas Medical Society at its Annual Meeting, May 8-10, 1928, at Wichita, Kansas.

Man is the only animal that takes into his system substances which are detrimental to his well being. Likewise man is the only animal that laughs and cries. This is another evidence of the wise provision for the fitness of things. When man inflicts his body with irreparable damage, he can cry about it; when he by some means or other is able to escape, he rejoices.

The human body has an inherent power to protect itself from poisonous substances introduced from without. When morphine, cocaine, alcohol, or tobacco is introduced into the body, there is at once set up a revolt, on the part of the tissues involved, and as a result of this conflict protective agents are formed. The physiology of this particular reaction has never been completely worked out. For the purpose of argument I am going to give the name of antinarcin to this complex chemical reagent which is perhaps manufactured by some of the ductless glands or perhaps by the white blood cells. Anyway antinarcin is elaborated for the body's protection against such poisons as alcohol, nicotine, morphine, heroin, and cocaine. When a narcotic is taken into the body, antinarcin is elaborated which will be used to neutralize a portion of future additions of the drug. The greater the dose of narcotic, the greater the amount of antinarcin produced. This is one explanation for the development of tolerance to narcotics. Instances are recorded where individuals are able to take many times the lethal dose of morphine directly into the circulation without even the ordinary therapeutic effect. When the administration of the drug is withheld the antinarcin attacks the nervous

system producing the well known withdrawal symptoms of yawning, restlessness, nervousness, nausea, vomiting, vague pains, etc. It is this antinarcin that produces in the system the demand for future and continuous doses of the drug. This state of affairs, when it becomes established, is known as habit, when referring to the use of tea, coffee, tobacco and alcohol. When the causative agent is opium, its derivatives or cocaine, the term addiction is used. The distinction is only a matter of degree. Except in the continuous legitimate, medicinal use of opiates for the relief of pain, the need for the taking of narcotic drugs, depends upon the same psychic requirement as for alcohol.

Heroin is used in cough mixtures to allay pain. As a narcotic it is used as a snuff, or taken hypodermically. In the early stages of poisoning it gives the sense of exhilaration and inflation of the ego. It destroys more than all other narcotics the emotional values, paralyzes all sense of remorse or responsibility to others, and obliterates the restrictions built up by social custom, consequently, its victim becomes an antisocial, immoral self centered savage, who without hesitation breaks any law and commits any crime. Heroin is the opiate of choice of the youth of the underworld. A few individuals acquire the heroin habit by using the drug for asthma, certain chronic coughs and bronchitis, but most heroin addicts are youthful and begin to take the drug through curiosity or deliberately for inflation of their ego and obliteration of emotions.

Morphine is used to bring forgetfulness of the sorrows, memories, and tragedies of the world, and is therefore, most commonly employed by people older than heroin addicts. Quite frequently patients acquire the morphine habit unwillingly through the necessity for the

relief from pain: they differ from the "psychological" addicts in that they are always anxious to be free from the drug, and once they have broken the habit, seldom go back to the drug, unless a return of the pain forces them to it.

Codein is seldom taken by addicts, because the reaction from this drug is not so persistent. It is useful as an analgesic and hypnotic, and is unlikely to produce a narcotic habit.

The narcotic problem has reached the point in the United States, that the public is demanding that something be done for its protection.

The Harrison Anti-Narcotic Act was primarily intended to prevent the traffic in drugs; but it is easy to understand how ineffective this prohibitory method has been, when we take stock of the country's addicts.

However the Harrison Anti-Narcotic Act has accomplished a great many things to justify its existence. It has forced the patent medicine and cure all concerns to leave narcotics out of their remedies. It has prevented the refilling of prescriptions; and above all it has been a constant reminder to the physician that he might easily abuse the use of useful drugs. Even in our penal institutions narcotics are obtainable. Major S. W. Brewster, warden of city prisons of New York City, in answer to the question relative to the traffic in drugs in penal institutions replies: "This problem is one of the hardest problems that prison wardens have to contend with today as the smuggling of these drugs is so easy. They are smuggled into institutions through dishonest employes and by almost any trick or subterfuge. There are very few penal institutions which are ever entirely free from contraband narcotics."

The fact that narcotic drugs are not bulky, and that enormous profits are to be made by taking advantage of the ultimate consumer's non-resistance, the drug traffic at once becomes a close competitor of the liquor interests.

The bootlegger in narcotics builds up his clientele, by inducing his prospective customer to take just one shot to see how it goes.

Human slavery as a source of profit dates back to the middle ages, and continued almost to the present time—even among advanced peoples. The bondage of narcotic drugs is another form of human slavery: and for numbers of bondmen, and amount of profits, it far exceeds the results of human slavery even in its hey-day.

The profits are great because the addict will use any means to procure the purchase price, even if he must commit crime.

I wish here to quote at length from a statement made by the Hon. Richard P. Hobson, Secretary General, World Conference on Narcotic Education Ass'n., which was read into the Congressional Record on January 18 this year:

"The sleep poppy, the source of opium, is a native plant in Asia and southeastern Europe. Frequent notices of its use for poisoning are found in ancient and medieval records. Opium smoking was devised by the Dutch in Java in the eighteenth century, first mixed with tobacco then used alone. From Java it was taken to Formosa, and thence to the mainland of China. Portuguese traders first developed the importation of opium into China. They were succeeded by the East India Co. with a monopoly of the traffic of India. The amount shipped from India into China rose as high as 10,000,000 pounds in the year 1858. In 1906 the production in China itself was estimated at 44,000,000 pounds, importations from India that year being over 7,000,000 pounds. At that date estimates place the number of addicts in China at 27 per cent of the adult male population.

In 1803 a French chemist discovered how to produce morphine from the opium, and half a century later an American chemist discovered how to produce cocaine from coca leaves.

These concentrated drugs used generally in medicine, ten times as powerful as opium, swiftly produced addiction in all lands, at first as a by-product of medical practice, later through exploitation as well.

In 1898 a German chemist discovered how to produce heroin from morphine, between three and four times as power-



ful as morphine. With the spread of heroin, the narcotic menace has developed into a pressing world peril.

In 1729 the Chinese Government issued an edict prohibiting opium smoking in China. The effect was good but proved of little permanent avail. In 1790 the Chinese Government again issued an edict prohibiting opium smoking and in 1800 prohibiting the importation of opium into China. This led up to the opium wars waged on China which compelled its submission to the importation of the opium.

The dawning of hope came for real reform when America in 1905 enacted a law prohibiting opium traffic in the Philippine Islands and sent a committee to the governments of the Orient. This action was followed by China in 1906 with an edict prohibiting the use of opium and the culture of the poppy. Upon the initiative of the United States, the first international opium conference was held in Shanghai in 1909, followed by a second and third conference at The Hague in 1912 and 1913. Recently conferences of the opium commission of the League of Nations and its committees have been held at Geneva.

These conferences while of great value, particularly in bringing out the fact that narcotic drug addiction is a problem to all nations and to the human race, have illustrated how slow and how difficult it is to secure adequate international co-operation and how even where these have been secured, though of elementary nature, the greatest difficulties have been encountered on account of smuggling. Universal experience has shown that laws and treaties are difficult to secure and more difficult to enforce.

The Shanghai conference in 1909, The Hague convention of 1912 and 1913, and the meetings of the opium commission of the league of nations, successor of The Hague conventions, have been confined with limited agenda, to processes of law, while the Philadelphia world conference of 1926, called by the International Narcotic Education Association, was restricted to questions of narcotic education. The conference of committees in New York in 1927, on the other hand,

grappled with the whole problem of narcotic defense and founded the World Narcotic Defense Association to be a center of control to promote the defense, relief, safety, and immunity of mankind from this universal menace.

The desire for financial profits, springing from the basic and universal motive of self-preservation, tends to bring forth antisocial business activities on the part of individuals and groups to exploit society through harmful commodities, especially those that are habit forming and enslaving, which, naturally prove the most profitable.

Since the universal motive of self-preservation raises a barrier of protection where knowledge and appreciation of the consequences exist, the exploitation thrives upon the ignorance of its victims before their capture and their helplessness afterwards. Therefore, education, revealing the nature and consequences, is fundamental in any comprehensive treatment.

This exploitation partakes of the nature of a parasite and the nature of a beast of prey or inherent enemy. Therefore, governmental and legal processes are logical weapons for society to invoke and organize for its defense.

Since its victims are the chief instruments through which this enemy preys upon society, the isolation and rehabilitation of these victims constitute an integral part of the treatment.

The defense of society against narcotic drug addiction must therefore embrace processes of education, processes of law, and processes of reclamation. The following is the resolution adopted at the conference of committees:

Resolved, That the governing board of the conference be authorized and requested to provide for the incorporation under the laws of the state of New York of an association, nonprofit, wholly eleemosynary, to be known as the World Narcotic Defense Association, with full powers to utilize all honorable means to attain the following object, namely, mobilization and direction of the resources and vitality of society everywhere against narcotic drug addition to acquire and main-

tain immunity from this universal racial menace.

Resolved further, that the World Narcotic Defense Association should have authority to raise, establish, and administer the Narcotic Defense Foundation and other funds for developing existing agencies and creating and developing new agencies of narcotic defense, including processes of education, processes of law, processes of reclamation, and such other agencies and processes as the association may deem necessary or expedient to combat the ravages of narcotic drug addiction in America and throughout the world.

In pursuance of this resolution the association has been duly incorporated under the laws of New York, with the members of the governing board as incorporators.

This association is designed to be a central control to stimulate, organize, direct, and correlate narcotic defense activities everywhere in all departments so that processes of education, processes of law and processes of reclamation will act and react until the vital forces of organized society are marshaled to throw off this menacing ill.

The main reliance in America, as in other lands, for permanent relief from this threatening ill must be found, as intimated before, in the process of prevention through organized narcotic education.

Experimentation during the last seven years has brought out the methods by which this can be effectuated. The principle involved is that of having an analogy of a nerve center or ganglion of the body physical which presides over the question of safety from this peril and organizes and stimulates and directs the vital forces of society to make effective resistance. For carrying out this principle two organizations have been developed by a process of actual functioning, namely: The International Narcotic Education Association incorporated in 1921 under the laws of California, a corporation "not for profit" which undertakes to organize, develop, and standardize narcotic education in the schools, colleges, and education machinery proper of

this country and ultimately of other countries, and the World Conference on Narcotic Education, its subsidiary, founded in Philadelphia July 8, 1926, which seeks the co-operation of organized agencies, the press, the pulpit, the screen, the radio, clubs, associations, to extend narcotic education throughout society in general, and especially during narcotic week, the last week of February of each year."

The medical profession should be, and I believe it is, deeply concerned with the problem of the control of this narcotic evil.

It is ready to assume what responsibility is its for the instigation of this blot on the world. The per cent of addicts who trace their use of drugs to the medical profession is so small that I feel that it is almost negligible, when compared with that larger group, whose members blame no one but themselves, and their ignorance, for their plight.

The problem of control of this disease, and I believe I use the term disease advisedly, can be divided into prophylaxis and treatment. Like most diseases, the prophylaxis of the narcotic epidemic is by far the most important.

As far as I am able to learn most authorities do not look upon drug addiction as being curable.

There is no doubt about the profound and lasting effects left on the individual for a long time after he has been able to shake the demon. He seems to have lost those things we know as moral courage, stamina, and character. When these attributes are lacking in man, he reverts to the beast.

I believe drug addiction should be treated as a disease of the mind, just as insanity, and provision should be made by each state for the care and treatment of any and all individuals who are confirmed addicts.

At the present time most states look upon the addicts as criminals, and true it is that the majority are, for the simple reason that only through acts of crime are they able to provide themselves with drugs with which to satisfy their abnormal appetites.

It is impossible to effect the with-



drawal of a patient's accustomed drug unless he can be restrained; consequently any plan for the treatment of addiction must take this fact into consideration; but ordinary penal institutions are lacking in many of the facilities which will aid in restoration of the individual.

At the present there are several bills pending in congress, providing for the care of addicts, who are already in Federal Prisons, and for others who are convicted in State Courts. The most comprehensive of these proposed legislative measures is a bill introduced by Stephen G. Porter, which provides for the establishment of two narcotic farms for the confinement and treatment of addicts who have been convicted of offenses against the United States, and for other purposes.

The purpose of this bill is to provide for hospitalization and segregation of the country's addicts; and to keep them so confined until such time as they can be returned to society as restored.

It also intends that every means possible shall be used to rehabilitate the addict, restore him to health, and if necessary train him to be self supporting.

The scope of this paper will not permit my discussion of all the methods of treatment for drug addiction. I feel safe in saying, at the start, that there is no system or method which can be considered as a cure. One common method is to gradually reduce the size of the dose taken, until the patient can get along without any of his accustomed drug. Another treatment uses the substitution of other drugs for the one causing the addiction.

Hyosine and atropine are the drugs used in this method, and the patient is sometimes allowed a few doses of his accustomed drug at the beginning of treatment.

Narcosan is one of the most widely advertised specific remedies for which is claimed a direct action upon that habit forming something that I have already designated as antinarcin, thus removing the desire for the drug. Narcosan is stated by the manufacturers to contain lipoids, non-specific proteins and vitamins. Quoting from an article on "The

use of narcosan in the treatment of drug addiction," by Dr. G. S. Johnson appearing in Colorado Medicine, of November, 1927: "Patients treated for narcotic addiction by use of narcosan show the usual withdrawal signs. Of the 11 patients who were subjectively relieved by narcosan, 7 were known to have returned to the use of morphine, and the status of three is unknown. Narcosan is not of any added value in the treatment of drug addiction."

S. W. Brewster, warden of New York City Prisons, says, "Most of the prison wardens, including myself, are absolutely opposed to narcosan treatment."

What is known as the "Cold Turkey" treatment in use in jails and prisons, consists in the withdrawal of the drug, and impressing upon the patient that there is nothing that he can say or do that will get him one fraction of a shot. It is easy to see that this treatment is only suitable for patients who can be confined. In my hands this treatment has given more satisfactory results than any other.

During the past three years 118 addicts were received in Cowley County Jail. None received a dose of morphine after entrance. There were no alarming withdrawal symptoms, and no deaths.

The following tabulation by years, either shows that addiction in my county is decreasing or else addicts are not fond of "Cold Turkey."

	1925	1926	1927
Prisoners .....	452	484	414
Addicts .....	52	42	23
Per Cent .....	11.5	8.8	5.5

As long as an individual, who has become addicted, can procure enough of the drug to satisfy his wants, he will carry on, and to all intents and purposes is normal, but just as soon as his source of supply is cut off or his finances are depleted, he becomes a derelict and travels about from place to place, seeking a source of supply.

If he can manage to get money, he buys from peddlers, when he has no money he calls on members of the medical profession pleading for "just enough to carry him to the nearest hospital where he is going to take the cure."

It has always been my policy to never give an addict, even a small dose of morphine. There is no more need or occasion for my doing so, than to give to an individual a drink of alcohol just to appease his craving.

The supposed great suffering of addicts is not unbearable, and it is no greater suffering than that endured by many others.

I am convinced that a large percentage of city and county physicians and health officers have been trained, (by addicts) to render first aid to addicts. That is the reason for a constant stream of these unfortunates wending their way about the country, making only county seat towns.

I wish in conclusion to make the following general statements bearing on the solution of this problem.

1. Through international agreements production of narcotic drugs should be curtailed, to purely medicinal needs.

2. Provision of state and federal institutions for the treatment, and rehabilitation of all addicts.

3. Nation wide educational program, especially in the grade schools.

4. More stringent means for curtailment of smuggling and peddling.

5. Close co-operation of the medical profession with law enforcement officers, in the control of violators of anti-narcotic laws.

6. And lastly the discontinuance of the practice of prescribing for addicts on the ground that their extreme condition is sufficient justification.

—R—

### Acute Appendicitis

C. S. NEWMAN, M.D., Pittsburg

Read before the Kansas Medical Society at its Annual Meeting, May 8-10, 1928, at Wichita, Kansas.

Osler once said, "Old men should read new books; young men should read old books." The inference is that one should not only be conversant with the things that are new, but that he should turn back a few pages now and then and familiarize himself with the things that were popular yesterday.

About a generation ago, appendicitis was a popular subject; almost nightly in large hospitals, emergency operations were performed. We congratulate our-

selves that we have eliminated a large percentage of the emergency operations. We have a smug satisfaction in the feeling that most of the emergency operations of the past could well have been delayed until the following day and the patient given the benefit of a more careful diagnosis. But are we right? There has been no reduction in the percentage of deaths from appendicitis in the last generation notwithstanding the great advances that have been made in surgical treatment. Appendicitis is gradually dropping out of our literature but not out of our hospitals and mortality lists. The treatment after the patient reaches the hospital has been greatly improved. Modern instruments of precision and advanced knowledge has brought us a little nearer to solving the enigma known as the individual resistance of the patient.

Operative technic is considerably better; there are better methods of approach, improved drainage, and the high enterostomy procedure has doubtless saved many patients with severe abdominal distention. Glucose intravenously and normal saline hypodermoclysis have worked wonders, both before and after operation on the severe cases that have been dehydrated by continuous vomiting resulting in under-nourishment and acidosis, which formerly almost invariably meant death. These advances while they have saved countless patients have not brought about a commensurate decrease in mortality. The reason is obvious. A generation ago the surgeon was called early, while at the present time he sees too many cases on the third to the fifth day with abdominal distention, generalized rigidity, dry tongue, and scanty secretion of urine. To reduce our present fearful mortality there seems to be no choice except to revert back to the ideas of the past and say that operation should immediately follow the diagnosis of appendicitis. While many patients ride over attacks, a disease so terrific in its onslaught, so treacherous in its symptomatology, with such a high death-rate in our hospitals, is not one that justifies delay.

The cardinal symptoms of appendicitis are well known; nausea and vomiting



and epigastric distress, followed by general abdominal pain, localizing in the right iliac fossa, with tenderness and rigidity. The patient with a retrocecal or retroperitoneal appendix may have pain and rigidity far around to the right side, while the inflamed appendix that lies in the pelvis may give pain on the left side of the abdomen in rare cases. Some indiscretion in eating often brings on the attack. Many patients have taken a cathartic when first seen by a physician, and this often changes a mild attack into one of the fulminating type. The history of previous attacks should be taken into consideration. Pain of some degree is perhaps the most constant symptom of appendicitis. The pulse rate is of great significance. About fifty per cent of the cases showing a pulse rate of over one hundred will have a pus appendix on operation. The blood count is somewhat unreliable. Deaver says he operates in acute appendicitis and looks at the blood count afterward. Any physician who has ever considered a low blood count seriously when all other signs pointed to a fulminating appendicitis knows exactly what he means. A chill with appendicitis means an extensive absorption and that no time should be lost.

Internists and surgeons are practically agreed that operation should immediately follow the diagnosis of acute appendicitis. A divergence of opinion, however, appears when a case comes under discussion that is not seen during the first few hours of the attack, but on the second or third day or later; the time element, however must not be overestimated as it really cannot be taken as an index as to the condition of the patient. Many cases have progressed further in a few hours than others have in days and hence clinical findings must be used as the criteria upon which judgment as to operability is based. Patients with appendicitis of only a few hours standing, are often found to have the same degree of suppuration and gangrene as those of several days duration. A perforated or gangrenous appendix will be found in about twenty per cent of cases with symptoms existing for twelve hours or

less. In the face of such evidence no one can predict the outcome in the early stage of an acute attack, and failure to operate as soon as the diagnosis is obtained may be a fatal misfortune to all concerned. When seen late and perforation or abscess has occurred, the question of immediate operation assumes a different aspect. Operability here, depends solely on whether a diffuse peritonitis is present or not. If the patient with a recent perforation has been brought from a great distance, is greatly fatigued and dehydrated, it is probably best to wait. Rest and normal saline by hypodermoclysis with heat applied to abdomen will probably make the patient more safe for operation within a few hours. If a general infection exists, with distention, rigidity and vomiting, operation should be deferred until localization can be obtained. The time for this is variable but under proper treatment the general distention and rigidity are usually succeeded by flatness and softness and a mass can be palpated in the appendix region. When this has occurred and there is gas passed from the rectum, and one or more soft bowel movements, the patient is ready for operation. There must be no delay here for if time is wasted there will probably be a secondary breaking down of the defensive barriers with collapse and death. Such a death may occur as late as the sixth or seventh day after apparent recovery from the peritonitis.

The treatment during the stage of diffuse peritonitis is very definite. Nothing should be given by mouth, gastric lavage should be used to relieve the nausea and vomiting and at least 2,000 c.c. of normal saline should be given by hypodermoclysis each day to relieve the dehydration. Continuous heat should be applied to the abdomen, and glucose should be used to maintain the nourishment and to prevent acidosis. Insulin given intramuscularly at the same time the glucose is given increases the glyco-genic function of the liver and enables the body to store up and to utilize the glucose to a greater advantage. In doing this, the detoxicating power of the liver is greatly increased and the patient is

thus aided in resisting the ravages of the infection. One unit of U 20 insulin may be given for every 3 grams of glucose administered. It is well to give fluids by rectum at the same time the glucose is being given, in order to overcome the tendency of the glucose to deplete the body of fluids, since glucose acts as a diuretic.

In operating, care should be taken to drain all pockets. In all cases of infected retroperitoneal space posterior lumbar drain should be employed as well as the usual pelvic drainage. The practice of leaving an infected appendix in the abdomen except in the very unusual case is bad. They are often troublesome and the danger of removal if care is exercised in the removal of free pus probably has been exaggerated. All pus should be removed with sponges or suction machine after the pus-pocket is entered, before an attempt is made to remove the appendix.

Enterostomy is a procedure of such importance in severe cases that we believe it worthy of more detailed mention. A primary enterostomy may be done at the time of the appendectomy or at some later date. It should usually be high as we get direct drainage of the more toxic products of the intestinal tract. Enterostomy is designed to drain the bowel and to relieve gaseous distention, or to aid in the insertion of solution into the bowel. There is probably no surgical measure attended with so little danger and followed with such wonderful results. The treatment should not be delayed too long as there are cases in which large areas of the bowel will be found to be gangrenous. If, after one or two gastric lavages the distention is not relieved and the color of the contents of the stomach is not improved, an enterostomy should be performed without delay. This gives the patient the advantage of having a drain for the toxic fecal matter that is killing him, and also an opening for the introduction of large quantities of fluids, such as saline and glucose solution, which is often of life-saving importance. Various ways of performing an enterostomy have been designed and of course the technique varies

with the case at hand, but the Witzel operation is a very good one. A short incision is made under local anaesthesia down through the peritoneum. A suitable loop is selected and the contents gently expressed. The assistant either holds both ends firmly with the fingers or applies rubber-covered clamps lightly. A purse-string suture is applied opposite the mesenteric border and traction is applied to this suture as is done in inverting the appendix stump. The intestine is then incised and the number ten or twelve rubber catheter with fenestrations is inserted for the distance of one or two inches. The purse-string suture is tied and the tube sutured with the same stitch. The catheter is then depressed along the intestine and several Lambert sutures are inserted, which unite the serosa over the tube for a distance of one to two inches. If the omentum presents readily the catheter is passed through an opening in it. The catheter may be brought out through the original incision or through a stab wound. If the drainage is not free in the beginning a simple irrigation will probably start it.

The pathology of the appendix, differential diagnosis, and operative technic have been omitted from this paper for the reason that they are not the main factors in producing an increasing mortality. The subject of much controversy, the chronic appendix, is omitted, for as long as it remains chronic, subacute, or mythical, it does not produce deaths. The dissension within the profession on this subject has no doubt saved some patients from useless operations and on the other hand, helped to swell an ever-increasing death-rate.

The late Dr. Osler said, in acute appendicitis, the surgeon can be called too late but never too early. Dr. John B. Murphy said that for every death from appendicitis some one was to blame.

The deaths from appendicitis in the United States, taken from the Bureau of Vital Statistics, shows an increase of 30.9 per cent from 1900 to 1922.

It is appalling to realize that the number of deaths annually from appendicitis equals all those from salpingitis, pelvic abscess, surgical diseases of the pan-



creas, spleen, and thyroid, gall-stones, and ectopic pregnancy. The annual toll taken by appendicitis almost equals the combined total of intestinal obstruction, gall-stones, and gastric and duodenal ulcer. Before the age of 60, there are about four thousand more deaths annually from appendicitis than there are from diabetes. From an economic standpoint, think what this means. The vast majority of those who succumb to appendicitis are lost during their productive years; those who die from cancer or diabetes have, in most instances, passed their stage of usefulness.

### —R— The Sedimentation Test

J. L. LATTIMORE, M.D., Topeka

Read before the Kansas Medical Society at its Annual Meeting, May 8-10, 1928, at Wichita, Kansas.

From time to time we read articles and hear papers on various medical and technical problems and most laboratory workers endeavor to establish the efficiency of these given tests by performing a certain number and, if deemed of value, make practical application.

During the past few years, countless numbers of tests have been tried and found wanting, as being of aid in establishing facts of value in diagnosis; on the other hand, during the past few years valuable technical procedures have been developed and proven of merit, such tests as blood chemistry, the Wassermann, the Kahn, the significance of increased lymphocytes in whooping cough, the sedimentation test and numerous others.

The sedimentation test was first studied and noted by Galen, when he observed cells separated from the plasma more quickly in some acute inflammatory conditions than normal. Galen's work, however, was given little consideration by physicians and scientists of that time, because "bleeding" came into disrepute about this period. Later, Biernacki became slightly interested in the phenomena, but after a short study also discarded the test as of possible value.

To Fahraeus, of the University of Keil, goes the credit of stimulating interest in the subject, when in 1918 he published an article and cited his ob-

servation that the cells and plasma separate more quickly in some inflammatory conditions than normal, the same as Galen had previously found and reported. Fahraeus made considerable study of the topic, observed some normal values and applied the test to some pathological conditions. He observed that a man's normal rate is more rapid than that for women, that the rate is more rapid in the new born in pregnancy, menstruation and old age. He also observed that where the agglutination was increased there was a proportionate increase in serum globulin or fibrinogen or both.

Following Fahraeus, numerous investigators, both abroad and at home, have done extensive work in an endeavor to establish a substantial theory for the phenomena and to arrive at the most practical technique. Theories advanced by some of these workers are:

1. Size, number and hemoglobin of the red cells.
2. A change in electrical charge of the red cells, likely increased.
3. Changes in viscosity of blood plasma.
4. Changes of chemical composition, when the fibrinogen in the plasma is increased, for it has been definitely established that the fibrinogen in the blood is increased where there is tissue destruction.

My study of the project was undertaken only to satisfy my own desire to know the value of the test, to establish the normals in my own hands and to establish a technique which would better suit my own working conditions. After some experimenting with the different tests, rather the methods of performing the test, I found the technique suggested by Dr. Hunt of the Mayo Clinic to be simple, expedient and accurate and have been using that method lately. The procedure is a modification of the Westergren and Rubin technique. Using a clean, dry, fat free glass syringe, collect 3.5 c.c. of blood from the median basilic vein, immediately transfer to a vial containing .5 c.c. of a 1.6 per cent sodium citrate solution, then invert several times to insure thorough mixing. I have found that three or four hours may elapse be-

fore the second step, following the collection of the blood. Then using a serological pipette, clean, dry and fat free, draw up the blood, which has just been shaken well, to the 1 c.c. mark. Place a small rubber tube on the lower end of the pipette, turn the free end up and place a rubber band around the rubber and pipette, to hold in place. Note the time of drawing blood in pipette and read at intervals of 10, 20 and 30 minutes, again at the end of 1 hour, 2 hours and at the end of 24 hours. By using a pipette graduated in 1/100ths we can express the settling of the cells in percentage at any given time. There is much confusion about the method of reporting the results. I have recently been in communication with the Council of Medical Education relative to establishing a definite method of reporting results of the many laboratory tests. Much valuable work yet remains in determining a definite method of reporting the sedimentation test, as well as many other common tests. In the sedimentation test, some workers report the elapsed time it take the cells to drop to a certain level, others report the rate of drop per minute, hour, etc. In my work I chart the level of the cells each 10 minutes, for the first 30 minutes and then the level at the end of the first hour, the second hour and at the end of 24 hours. The normal rate as obtained in my hands, shows a drop of 2.5 per cent the first hour and 2 per cent the second hour for men and 3.5 per cent the first hour and 2.5 per cent the second hour for women with a 24 hour reading showing 38 to 43 per cent.

The Lenzenmeir technique is also simple and I had success with the method. Here, 1 c.c. tubes are used, measuring 5 m.m. by 6.5 c.m., with a mark 18 m.m. below the 1 c.c. mark. The tube is filled with citrated blood and the time determined which is required for the cells to fall to the mark 18.

The Fahraeus and the Westergren methods both require specially made tubes. The Fahraeus method requires considerable blood, using 8 c.c. of blood to 2 c.c. of 1.6 sodium citrate solution, placing the citrated blood in tubes measuring 9 m.m. by 17 c.m. and graduated.

The Westergren test uses tubes 2.5x300 m.m. with a mark 200 m.m. from the bottom, 1 c.c. of blood is placed in the tube and reading made for time reaching the 200 m.m. mark. This technique is the basic test upon which I have done my work.

My short study of this work is not extensive. I excuse myself for presenting this topic in hopes that it will stimulate some of you to study the test and determine if it has real value in your own hands. Although the performance of the test is simple there are some factors of error and I hope to eliminate those in the near future. Some workers report that food effects the test. This has not been my experience unless the diet be very heavy in proteins, under which condition the rate is increased. Exercise also seems to increase the rate. Personally, I have had no experience with the test in tuberculosis, but numerous workers observe rapid rates. They also agree that the increased rate is in proportion to cellular destruction in the lung, in active tuberculosis, so it would appear that the test has some value in estimating the activity, destruction and prognosis but is not specific for diagnosis.

It has been my observation that the sedimentation test has its real merit in differentiating pelvic from other abdominal inflammatory conditions, in determining the time for operation and aiding in making a prognosis. To obtain this information, repeated tests must be performed and proper interpretation made of the results. The sedimentation rate alone must not be the guide, no more so than the lone pulse, temperature, blood count or any one symptom be the guide to surgical or medical procedure. Correlation of symptoms, x-ray, laboratory findings and physical examination are necessary and this is certainly true in the use of this test. One very valuable place for this test is in differentiation of ectopic gestation from tubal infection, the ectopic gestation showing a very slow rate, while tubal infection shows a very rapid rate. I heard Dr. Polak talk on this subject and he is very sure that the test has enabled him to save lives of women, in that a rapid rate is found in



chronic endometritis and he uses the rate as an index to the time of curettement, refusing to do the work if the rate is lowering, believing that curettement only breaks down nature's barriers in the uterus. He assumes that trauma to the endometrium disseminates the bacteria buried in the tissues.

It is generally agreed that a rapid sedimentation time means infection, but the test does not locate the infection, any more so than an increased white count. Other than pelvic infection, some of the conditions I have found giving a rapid rate are, wound infections, septicemia, peritonitis, carcinoma of uterus and septic abortion. Two cases of ectopic gestation gave slow rates, fibroid of the uterus shows a moderate decreased rate, but not decreased enough to be confusing. Our findings show that tubal infection shows a slightly more rapid rate than either septicemia or peritonitis. In three cases a low rate was the first evidence of post-operative peritonitis.

In conclusion, let me solicit your interest in this subject, but let me warn you not to place all confidence in the first few tests. Sufficient experience and proper interpretation of the test will afford us and aid us in diagnosis and surgical procedure, which I believe is the thing that every physician desires.

R

### **Congenital Malformations of the Kidneys With the Report of a Case**

A. BOESE, M.D., Coffeyville

Read before the Kansas Medical Society at its Annual Meeting, May 8-10, 1928, at Wichita, Kansas.

The embryology of the ureters and kidneys and of the genital system are very closely interwoven, and defects in the one system are very often associated with defects in the other. The development of the kidneys and ureters go through three stages: the first, the pronephros degenerating; the second, the mesonephros, parts of which degenerate, and parts go to forming the genital system; while the third stage, the metanephros, forming the permanent organs. Before the mesonephros has attained its full development, the metanephros makes its appearance. At about the fourth week of embryonic life, a bud appears near

the cloaca on each side of the Wolffian duct from which develops the ureter, kidney pelvis, and the kidney. The kidney reaches its true position very early, and the length of the ureter is accounted for by the great development of the body of the embryo in this region. During the migration of the kidney to its permanent position there is a vertical axial rotation of the kidney, the pelvis lying anteriorly at first, and rotating 90 degrees so that the pelvis lies mesially in its true position. Embryologically, cases of ectopic kidneys are accounted for by a failure of the kidney to reach its normal position, while fused kidneys are the result of arrested development. Then an ectopic, fused kidney is a combination of failure to reach its normal position and arrested development. Corresponding to the time when fusion took place, two types of fused kidneys are distinguished. If the fusion took place prior to the time when the kidneys are lifted out of the pelvis, they remain in place as an ectopic kidney. If the fusion took place later, the kidneys reach their normal position, and form the different varieties of horseshoe and ring kidneys.

Congenital kidney anomalies are classified by Young as follows: Anomalies of number, form, structure and vascular supply. Of the different anomalies, supernumerary kidney is the rarest, while the horseshoe kidneys are the most common. The frequency of ectopic kidney is shown by Naumann, who in 10,177 collected autopsies found 20 cases of this condition, 12 cases were on the left side, 5 on the right, and 3 bilateral. The condition is more common in women than in men. Of 66 cases collected by Straeter, 53 were in women, and 13 in men.

This patient, H. J. C., was seen early one morning, complaining of inability to urinate. A Fr. 18 catheter was introduced without any trouble, to my great surprise, and the bladder found to be empty. He presented the following history. For the last two months he noticed that he had lost some bladder control with a beginning frequency. He had never had any pain in his abdomen, in his back, or in his testicles. He had never noticed any burning on urination

nor had ever passed any blood. The night before I saw him, while out skating, he suddenly developed a very severe pain in his testicles, with an intense desire to urinate, and urinated once without any trouble. His urgency and pain increased, but he was unable to pass any water. He vomited some that night. Toward morning this pain let up, and the urgency disappeared.

On examination, a mass was discovered in his left lower abdomen which felt smooth, hard, and was somewhat tender on pressure. This mass could also be felt on rectal examination, and was found to be practically immovable. His temperature was 101° F. and his blood pressure 155/100. He was put into a hot pack with institution of active bowel elimination. This complete suppression lasted for 2½ days. During the first day the patient was fairly comfortable. The sweat packs were continued, and a venesection was done with withdrawal of 400 c.c. blood. His condition was beginning to be desperate, the patient becoming drowsy, and in consultation with Dr. J. M. Dickinson it was decided to do an exploratory opening of the abdomen and determine the nature of the mass, since it was felt that this had some direct bearing upon the patient's complete anuria. About two hours before the operation, the patient had a severe chill with involuntary urination, and began to pass large quantities of urine every ten or fifteen minutes. The urine passed did not contain any albumen, and did not contain any pus cells. The mass did not reduce any in size, his temperature remained up with a leucocyte count of 20,000. It was decided to open the abdomen in the face of this and try to determine the nature of the mass.

A midline incision was made under local anesthesia. A large retroperitoneal tumor was found behind the bladder and in front of the rectum. The upper margin of the mass extended to the pelvic brim, and was all to the left of the sacrum. The mass felt smooth, resilient, solid, and did not cause him much pain when pressing on it. The peritoneum was then opened, and the mass found to be kidney tissue, without any surround-

ing fat and with the pelvis apparently behind the kidney mass. The surface was studded with small abscesses. Under ether anesthesia, the abdomen was then explored for any other kidney tissue, but none was found. The abdomen was then closed.

The patient seemed to rally very well from the operation when on the next day he again developed a complete suppression of urine, this time without any pain in his testicles, or any pain in his abdomen. This lasted for about two days when he again suddenly began to pass large quantities of urine. He developed a diarrhoea with vomiting at this time without any elevation in temperature. On the eighth postoperative day a slight abdominal distention was noticed, and he died on the tenth day.

When the abdominal cavity was opened at the autopsy, the intestines were found to be empty, and the surfaces were smooth and glistening. The peritoneum covering the kidney was reflected up and down, and the kidney removed intact with the blood vessels, ureter, and bladder. The kidney was a large, somewhat heart-shaped mass.

The ureter measured 4½ inches in length. About ¾ of an inch from the bladder, a large ureteral stone was found, with considerable dilatation of the ureter above the stone. The blood supply was a branch from the left common iliac artery. The kidney pelvis was injected with sodium iodide, and an x-ray film made. The negative showed two pelvices opening into the one ureter. On the surface of the bladder at about the area of where the right ureter should have been, a small bud was found, evidently the remains of an atrophied ureter.

Such pelvic kidneys present a bewildering array of symptoms, since their abnormal position does not protect them from any of the usual kidney diseases. A pelvic kidney must be considered in every retroperitoneal tumor found in the pelvis. Pelvic stones, ureteral stones, infections and tumors may also occur in the pelvic kidney. Another very important complication of a pelvic kidney is pregnancy. Straeter lays down the following rules: "If discovered at the be-



ginning of pregnancy, laparotomy, dislocation, or fixation should be done. Second, if discovered later, consider the advisability of the induction of premature labor. Third, do not remove a normal kidney shortly before or during labor. Fourth, if discovered after labor has begun a pathological kidney may be punctured to allow delivery and a nephrectomy done later."

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### TUBERCULOSIS ABSTRACTS

"Early Discovery—Early Recovery; Let Your Doctor Decide" is the slogan of an educational campaign being actively promoted among the public during April, 1929, by tuberculosis and health associations throughout the country. Emphasis is being placed on the need of discovering tuberculosis in children before it has become manifest pulmonary tuberculosis. While latent tuberculosis in children is not, per se, an immediately serious condition, its discovery is of extreme importance for it enables the physician to institute those measures which may prevent the development of manifest disease later in life. This is prevention.

#### LATENT TUBERCULOSIS IN CHILDREN

Latent tuberculosis is tuberculosis unaccompanied by significant symptoms or

by physical signs. Lesions temporarily latent in this sense invariably precede manifest disease.

The intracutaneous tuberculin test is especially valuable, for by this means sensitiveness to tuberculin can be measured so accurately that two successive tests can be compared. Studies made at the Henry Phipps Institute upon children of families in contact with open tuberculosis and observed over a period of four years showed that the tuberculin reaction would often aid in determining whether a lesion recognizable by *x-ray* was potentially progressive or already healed. An active tuberculin reaction in a child with a tuberculous lesion recognizable by *x-ray* examination is presumptive evidence that the lesion has not healed.

There is no essential distinction between latent infection shown by an isolated pulmonary nodule, and that accompanied by obvious involvement of the tracheo-bronchial lymph glands, for dissections of lungs show that a pulmonary focus is almost invariably found in association with a lesion of the tracheo-bronchial lymph glands. In most instances lesions of these glands are seen in the *x-ray* pictures because there is some deposition of calcium, but massive lesions are sometimes recognizable, even in the absence of calcification. In young children there may be, in association with lesions of the lymph glands, wide areas of soft infiltration evident in the peripheral lung field.

Latent tuberculosis of the apex is of greater importance from the standpoint of prognosis than is disease of the tracheo-bronchial lymph glands. It is not infrequently seen in children of about 13 years of age, often in those who are examined as contacts. The lesions are usually indicated by "soft" mottling in the second and third interspaces, occasionally as low as the fourth interspace. The character of these lesions as revealed by *x-ray* examination differed in no way from lesions found in another group of children where the obvious infiltration was accompanied by rales at one or both apices. The writer, by the way, does not accept the view that all

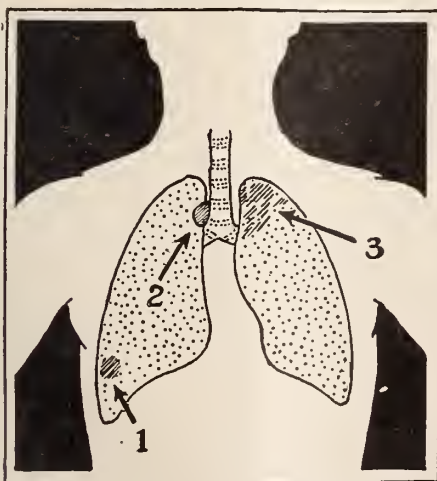


Diagram of lungs, showing how tuberculosis sometimes develops. 1. The first tubercle; 2. Lung gland which has been attacked by tubercle bacilli; 3. Disease of lung substance, which may spread to other parts of the lung.

(Illustration from booklet, "Do Children Have Tuberculosis?" designed to interest parents in latent tuberculosis.)

tuberculosis, including the phthisis of adult life, has its origin in early infancy, although he believes that a good deal of the pulmonary tuberculosis of early adult life has its origin during adolescence.

Severe latent lesions are found most often in families in which some member is suffering from open tuberculosis, their frequency increasing with the duration of exposure. *x*-Ray examination of young children in families exposed to tuberculosis will reveal the severer form of latent tuberculosis of the tracheo-bronchial lymph glands at a time when it is still unhealed; while routine examination of adolescent children exposed to open tuberculosis may also result in the discovery of latent apical lesions.

Lesions of the apex may remain latent for a long period before they are revealed by hæmorrhage or other symptoms, and what is regarded as incipient tuberculosis of early adult life is often represented by a fibroid lesion which has had its origin during adolescence, and has remained latent for a considerable period of years. The writer insists that no clear insight into the contagion of tuberculosis can be obtained unless latent disease is brought within the field of vision.—E. L. Opie, *Amer. Rev. Tub.*, 1927, 16, 468.

#### THE DIAGNOSIS OF TRACHEO-BRONCHIAL TUBERCULOSIS

For some seven years the writer has studied the question of radiography of the lungs, to determine what abnormal change could be conclusively recognized. The subject was approached in two main directions, one to discover what elements of the lung structure might be differentiated by *x*-ray examination under the simplest conditions, and the other to provide against the effect of cardio-vascular movement in disturbing lung detail.

The first of these questions was studied by radiographing the excised lung, and then comparing the specimen, area by area, with the radiogram. Some 400 pairs of lungs were thus examined, about 150 of which were maintained inflated during exposure. A study of this post-mortem material has convinced the author that calcium infiltration is the

sole distinctive radiographic indication of the site of a lymph gland situated within the limits of the mediastinum. Calcium-free glands, however enlarged, fail to cause perceptible intensification of the mediastinal shadow. Intrapulmonary glands must contain calcium to be recorded radiographically. When they are large, that part of their calcium-free margins which projects beyond the arterial main stem will be recorded by contrast with the pulmonary parenchyma. Re-absorption of calcified caseous necrosis does not appear to occur. Shadows simulating calcification are thrown by vessels axially radiated.

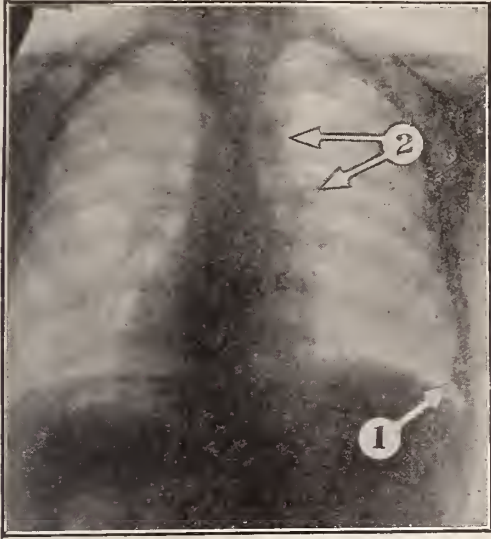
Experience with physical signs in the diagnosis of tracheo-bronchial disease has been disappointing. Prolongation of the whispered voice downwards was common to the third, and sometimes to the fifth, dorsal spine, but the writer was unable to account for it on the basis suggested by d'Espine. Percussion was almost equally unsatisfactory, since there was no constant relation between apparent changes of percussion note and a demonstrable lesion. "It is not easy to understand how lesions other than the massive caseation of fatal infantile tuberculosis, which alone, apart from the malignant tumours, protrudes materially beyond the spinal margin, could supply an anatomic basis for changes in percussion. . . . Nor is there commonly a well-defined basis for those changes in percussion in the interscapular region ascribed to changes in muscle tone."

No characteristic or definite group of symptoms could be recognized as due to tracheo-bronchial tuberculosis. Respiratory symptoms due to uncomplicated tracheo-bronchial disease do not occur.

Finally, the writer discusses the question of the quantitative tuberculin reaction which he believes is important at those ages at which it is most desirable to recognize the presence, pathologic condition and significance of tracheo-bronchial tuberculosis. A marked reaction to 0.01 mg. of tuberculin (O. T.) in a child under 5 years is sufficient to warrant therapeutic and prophylactic measures, even in the absence of demonstrable lesions. "The presence of a recognizable



lesion gravely emphasizes the danger, and rarely before the fifth year will the calcium shadow be other than fine and presumably labile. After the fifth year



X-ray of child's chest, showing (1) primary nodule, and (2) caseous lymph nodes.

an intense reaction suggests an active lesion, especially if the calcium infiltration casts a soft shadow."

The diagnosis in the individual of tracheo-bronchial tuberculosis must rest on a demonstrable lesion, and "a definite symptom-complex can be discovered only by study of cases presenting such lesions."—F. M. McPhedran. *Amer. Jour. Med. Sciences*, 1927, 173, 245.

—R—

### KANSAS MEDICAL LABORATORY ASSOCIATION

J. L. LATTIMORE, M.D. Editor

M. Stein and Schachsuwarly state, that of 136 complement fixation tests for tuberculosis, only 40.4 per cent of patients with clinical tuberculosis reacted positively and 5 per cent of nontuberculous patients reacted positively.

Of more than 100 new-born infants tested by R. Debre and M. Hamburger, 60 per cent belong to the same group as the mother. That the exact group of the infant can be determined with umbilical cord blood and examinations several months later gave the same grouping. It is their opinion that, no matter who is the doctor and no matter what is the age

of the recipient, tests for compatibility of the two bloods should always be made before performing transfusion.

Sophie Spicer found all the patients gave a positive ophthalmic test to horse serum, that gave a positive intradermal reaction. She used undiluted serum or serum diluted 1:1 or 1:2 for both the ophthalmic and intradermal tests.

George Kemeny. A drop of Seydewitz's solution (a mixture of congo red and trypan blue) is added to a drop of urine sediment on a slide and the mixture covered with a cover glass. Living cells are unstained, injured cells stain faintly and necrotic cells stain intensively from a dark blue to a dark red in differential shades. The results of Kemeny's studies demonstrated that elements of living tissue occur chiefly in acute diseases of the urinary tract, while dead cells appear in the sediment with sub-acute or chronic diseases.

Markwalder recommends a mixture of methyl red and methyl blue (equal parts of each in a .5:1,000 alcoholic solution) for testing the reaction of the urine. In the presence of acid, this solution turns blue; in the presence of alkali, green. In a dark bottle, it keeps well. It is adapted to quantitative examination.

Spirocheta Pallida staining according to L. Udasco.

A. Take a small drop of secretion from suspected lesion and deposit it on one end of a clean slide. Emulsify it with an equal amount of Congo Red (2.5% in water). Make a smear as for blood. Air dry.

B. Pour enough concentrated HCl or HNO<sub>3</sub> in a small Petri dish and place slide on the rim of the dish, smeared surface down, so as to come in contact only with the fumes. Almost instantly the smear turns blue and in thirty seconds is ready to be examined under oil immersion objective. The treponema pallidum will be found as clear white spirals against a uniformly blue background.

From a letter from the U. S. Public Health Service to the writer, regarding

typing of sputum. Their routine method is the mouse, however, when in a hurry for the report, the Krumweide method is used, then later is checked with the mouse test. The Krumweide method if positive is reliable, but if negative must be checked with the mouse method. Also they carry out a precipitin test on the urine, using three types of diagnostic serums.

The American Society of Pathologists has appointed Dr. J. L. Lattimore of Topeka as Censor for the State of Kansas. For the past two years the Society has performed considerable service, in conjunction with the A.M.A., in standardization of laboratories and registration of technicians. To date there are four registered technicians in Kansas with three applications now on file. To register, the applicant must have a working knowledge of hematology, serology, parasitology, bacteriology and blood chemistry. Investigation is made as to education, technical training and character and a certificate is given by the Society upon acceptance. Those desiring information relative to registration or qualifications should write to Censor for Kansas, or direct to Dr. Phillip Hillockwitz, Denver, Colo., Chairman of Committees on Registration for the American Society of Pathologists.

There will be two classifications of technicians.

A. Medical technologist.

B. Laboratory technician.

The medical technologist shall signify those holding a university degree with at least one year in the basic sciences and at least one year of practical experience in a recognized laboratory. The laboratory technician shall signify those who are qualified to render general or special technical service in a clinical, research or public health laboratory under the supervision of a qualified director and shall exhibit the following minimum requirements:

1. Graduation from an accredited high school.

2. One year didactic work in basic sciences (chemistry, bacteriology, physiology, pathology and laboratory demonstration).

3. Six months experience in a recognized laboratory.

Technicians who limit their work to a certain special field shall be designated as such, for example, chemical laboratory technician.

### **Complement Titration and Blood Counts**

LANCE C. HILL, Emporia

Complement titration and blood counts seem to be a very simple thing to write about at this day and age and perhaps they are. Nevertheless, I may be able to call to mind a point or two that may be of some service or assistance to some of my readers. Sometimes it is the simplicity of a thing that gets us into trouble and because of this I have chosen to write about a titration of complement and blood counts.

Every laboratory worker no doubt has developed some special refinement of various laboratory technics that would be of assistance to other workers if it were passed on to them.

In my experience at Dijon, France, during the World War, I had the opportunity of observing many laboratory workers as they came for permanent and brief stays at the Central Medical Department Laboratory. I have also had several university graduates in my employ whom I have likewise had the opportunity to observe.

#### **COMPLEMENT TITRATION**

Many of these have not followed the refinement of technic that will be set forth in this article and just as many did not do consistently good complement titration nor did they do a consistent Wassermann or other complement fixation examinations, so I am wondering if some of us pass unnoticed some little refinement of a technic that would make for more accurate laboratory procedure and more consistent results.

How many of my readers have seen or have had a tube with a smaller dose of complement completely hemolyze while a tube with a suspected larger dose did not? This of course can be accounted for in several ways but I believe it is in most every case due to the delivery of an indefinite amount of complement.

In my complement titrations, I make



sure that the outside of the pipette is free from complement. This is accomplished by filling a 1 cc pipette (graduated in 1/100) with the dilute complement to a point above the graduation and while holding the complement in the pipette in the usual way with the index finger of the right hand, a towel is taken in the left hand and the pipette is drawn through the towel with the right removing the complement from the outside of the pipette. The tip of the pipette is now touched against the wall of the complement container and the complement is let down to the first graduation.

You are now ready to deliver definite amounts of complement in the tubes. To avoid the possibility of complement clinging to the side of the tubes, I take each tube, one at a time, in the left hand and place the tip of the pipette in the bottom of the tube and deposit the complement. If this particular method is found awkward or inconvenient, the complement can be permitted to run down the side of the tubes, providing the amboceptor, cells and normal salt solution is permitted to run down the same side of the tube to wash down any complement that may have adhered to the side of the tube.

#### BLOOD COUNTS

Much depends upon a blood count and a very exacting technic should be employed in its making. One should not be in such a rush or not energetic enough to thoroughly mix the cells with the diluting fluid by vigorously shaking the mixture of blood and diluent. This eliminates one source of error but there are yet two other sources and they are the possibility of blood clinging to the pipette tip and being deposited on the counting chamber when the diluted blood is placed on the chamber for the count. The second point and perhaps the greatest source of error with some workers is not expelling about one-half of the mixture before attempting to make the count. I make it a practice to expel small portions of the half at several locations on a clean towel and each time wiping the tip of the pipette with the wetted portion of the towel, thus removing any cells that may have adhered to

the pipette tip and making sure the remaining content of the pipette is an accurate mixture, free from the diluting fluid that last occupies the capillary opening when first filling the pipette for the count.

—R—

#### Association of Jaundice and Ascites in Diseases of Liver

James F. Weir, Rochester, Minn. (J.A.M.A., Dec. 15, 1928), reports five cases that represent unusual types that have been encountered in a clinical experience in more than 500 cases of varying types of jaundice during the last five years. Case 1 is an example of ascites occurring in a patient with jaundice due to obstruction of the common bile duct by calculus and who recovered after adequate surgical treatment. Case 2 is an example of subacute yellow atrophy in which the pathologic process progressed to the stage of portal obstruction. The remaining three cases represent an unusual course: the association of jaundice and ascites in a more or less acute process with evident recovery. These are given special consideration in this report.

—R—

#### Medical Prescription of Alcohol

During 1928, 68,951 physicians used prescription books as contrasted with 48,097 in 1927. The number of licensed physicians in those states which permit the use of liquor for medicinal purposes is 116,756, so that a little more than one-half the total number of physicians permitted to prescribe alcoholic liquors avail themselves of the opportunity. Slightly more than 10 per cent of all the physicians who might prescribe alcoholic liquors used the total number of prescriptions afforded them by the government. The total number of prescriptions issued during the year increased from more than eight million in 1922 to approximately thirteen and a half million in 1925 and then decreased to less than twelve million in 1927. At the close of the year the number of outstanding permits of this kind had increased to 101,052. (J.A.M.A., March 30, '29).

# THE JOURNAL

of the

## Kansas Medical Society

W. E. McVEY, M. D. - - Editor

ASSOCIATE EDITORS—C. W. REYNOLDS, L. B. SPAKE, P. S. MITCHELL, O. P. DAVIS, J. T. AXTELL, C. S. EDGERTON, C. C. STILLMAN, ALFRED O'DONNELL, C. S. KENNEY, I. B. PARKER, C. H. EWING, W. F. FEE.

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### THE ANNUAL MEETING

The annual meeting of the Kansas Medical Society will be held in Salina, May 7, 8 and 9. Arrangements have been made to hold all of the meetings in the Masonic Temple, a spacious building located one block south of the main retail district on Santa Fe Avenue. It contains several large lobbies, a lounge room with mezzanine floor, and several parlors. Its auditorium is ample in size and has excellent acoustic properties. It has a banquet room with a seating capacity for one thousand. It also has a large ball room, the floor of which the members and their wives will have an opportunity to try out. A large room adjacent to the auditorium, but separated from it by a lobby, will be used for the exhibits. Both the exhibit room and the auditorium are on the third floor and may be reached by elevator or stairway.

Train service to Salina is very convenient, the early morning trains arriving before the beginning of the program and there are afternoon trains leaving in all directions. For those going east a Pullman is set out and picked up by an

early morning train which reaches Topeka about 6 a. m. and Kansas City before 9 a. m.

Those who prefer an automobile trip will find fairly good roads. Highway No. 40 S is paved all the way from Kansas City, except twenty miles east of Manhattan. West of Salina this highway is graded. Highway No. 81, north and south, is sanded and is reported as especially good to McPherson, Hutchinson, Newton and Wichita. There will be plenty of garage space in the hotel district and also near the temple.

Special arrangements have been made for the entertainment of the doctor's wives, one parlor being set aside for their accommodation.

There will be a golf tournament on the Country Club links on Monday preceding the convening of the Society. There will be a banquet on Wednesday evening followed by vaudeville and dancing. In compliance with the decision of the Society at its last annual meeting each member will be required to pay for his banquet tickets. This policy is not being inaugurated by the Salina committee on arrangements, but very definitely demanded by the House of Delegates at the last meeting.

The scientific program gives every assurance of being a good one. An effort has been made to secure speakers who will present subjects of interest and value to all members of the profession. On one evening an address will be given to which the public will be invited, and the speaker and his subject will be appropriate for this occasion.

A special feature of the program will be the showing of the film "Living Tissue and Cancer Cells and the Effect of Radium upon Them," by R. G. Canti of London.

This unusual film, completed last year, has been shown but few times in Europe



and America. It demonstrates in a remarkable way the process of cell division in both normal and malignant cells, and the changes occurring after exposure to radiation.

The following guests have accepted invitations to attend the meeting and address the members of the Society:

Dr. Philip H. Kreuscher, Chicago, who will talk about fractures.

Dr. Granville S. Hanes, Louisville, Kentucky, whose subject has not yet been announced.

Dr. Logan Clendening, Kansas City, Missouri, who will deliver an address at the public meeting and will also appear on the regular program of the Society.

Dr. Charles H. Nielson of St. Louis, will talk on the subject of headaches.

Other invitations are out but acceptances have not yet been received.

#### KANSAS MEDICAL GOLF ASSOCIATION

The annual golf tournament of the Kansas Medical Society will be held on the links of the Salina Country Club on the Monday preceding the convening of the Society in its annual meeting.

This feature of the Medical Society has rapidly grown until it now plays a very important part in creating good fellowship among its members. Last year the tournament at Wichita was a great success and was followed by an evening devoted to lighter things of life. Dr. R. W. Hissem of Wichita is president of the Golf Association and he has appointed the following physicians of Salina to act as the committee on arrangements: Dr. H. E. Neptune, Dr. L. O. Nordstrom and Dr. C. M. Fitzpatrick. This committee is already at work and have just about completed all plans and announce that the entire day will be devoted to golf, which calls for handicap play, under direction of the Salina Professional, Mr. Ford.

Any member of the Kansas Medical Society is eligible to play upon the payment of \$2.00 for permanent membership and \$2.00 for the tournament. Entry blanks or information can be secured from any member of the Committee, from the President or from Dr. J. L. Lattimore of Topeka, the Secretary.

The seventy-five playing in this tournament last year will surely return and in addition that number of new players are expected, for once you have attended one of these affairs you will never miss another.

#### KANSAS MEDICAL LABORATORY ASSOCIATION

The Kansas Medical Laboratory Association will meet in the Masonic Temple at Salina, May 8, at 9 a. m. There will be five papers on laboratory problems and two hours will be devoted to round table discussions. J. D. Kabler of Wichita is president and Mrs. R. E. Odell of Fort Scott is secretary.

#### THE AUXILIARY

The Kansas Medical Auxiliary will meet at the same time as the Society. An elaborate program has been prepared and the lady members will be royally entertained. Mrs. Allen K. Bunce, National President of the Women's Auxiliary, is scheduled for an address on Wednesday afternoon. The full program will be found below, as part of the regular Society program.

#### LUNCHEON

The Phi Beta Pi National Medical Fraternity will hold a luncheon at noon on Wednesday, May 8th, during the state medical meeting at Salina.

All Phi Beta Pi are urged to come to the state meeting and attend the luncheon.

## BURIED ALIVE

The basic science bill was not passed by the legislature which has recently adjourned. It was not killed, it was buried alive. As was predicted in the last number of the Journal, there were enough members of the House who had promised to vote for the bill to have carried it. Unfortunately the opposition made a good many of these men feel that they would much prefer not to vote either way. We have been informed that about one hundred members of the legislature asked the chairman of the Calendar revision committee not to advance the bill, stating that it would greatly embarrass them if they had to vote either way. That statement may or may not be true, but it is a fact that several members of the House would have been seriously embarrassed politically no matter which way they voted. The majority of the legislators failed to grasp the fact that this sort of legislation is for the benefit of the people, that it is not simply a favor granted to the medical profession. A lot of publicity had been given to our proposed bill and the people who knew anything about it, who really knew what it was intended to accomplish, were almost unanimously in favor of it. After a great deal of publicity work had been done, the question came up as to how the people could express their wishes in the matter to the legislature. It seemed that this could best be done by petitions. Letters and blank petitions were then mailed to every member of the Society. Each one was requested to secure at least one hundred signatures. These requests were mailed in September, over three months before the legislature would convene. In December follow-up letters were mailed referring again to the importance of these petitions.

If every member of the Society had sent in one-hundred signatures we would

have had approximately 150,000 voters in the State asking for this law. The legislature could not safely ignore an appeal of that sort. But we did not get 150,000 signatures. When the petitions were turned in there were exactly 8,585 signatures and 8,274 of these were secured by 129 members, 311 were secured by members of the Auxiliary and one physician who was not a member of the Society. From the letters received with the signed petitions it could be reasonably concluded that people welcomed the opportunity to sign them. Only a few stated that they had met with any refusals. Apparently there were 1,350 members of the Society who thought it hardly worth while to secure these petitions for one can hardly believe that there is one of that number who hasn't one hundred supporters and friends in his community.

An autopsy is of no particular benefit to the deceased but it sometimes does enable us to know how to treat the next similar case. In this case we fell down on getting sufficient support from the people and for that we are to blame. However, it is possible that might not have brought our bill through. After a careful review of events as they transpired in the last legislature one is inclined to believe that our main trouble was that we failed to secure permission to have our bill considered. We were apparently rank outsiders.

—————R—————

## CHIPS

Collins and Kornblum, Archives of Internal Medicine, March, 1929, describe three cases of pneumonia due to the Friedlander bacillus. From the fact that several months after the acute infection evidence of pathologic change could be demonstrated both by physical and by x-ray examination, they conclude that there is a chronic form of pulmonary disease due to the Friedlander bacillus; and that this is in many respects similar to chronic pulmonary tuberculosis. The



authors say: "So closely may these diseases simulate each other that in certain cases neither the clinical nor the roentgenologic evidence seems to make the differentiation. The diagnosis must rest upon the bacteriologic examination alone. This has led us to believe that many cases of chronic Friedlander infection are masking under the diagnosis of tuberculosis."

Beekman, in *Archives of Surgery*, March, 1929, compares the end results in the treatment of one hundred fourteen cases of burns, by the tannic acid method, with the results in the treatment of three hundred and twenty cases treated by other methods. He concludes that the tannic acid method is the most satisfactory treatment so far advocated for cutaneous burns. The mortality has been decreased from 28 to 15 per cent in a series of 434 cases of burns in children. Toxic absorption in burns takes place within twenty-four hours of the occurrence of the burn. The greatest mortality occurs between the end of the first twenty-four hours and the end of the third day. In the treatment of these patients he calls attention to the necessity for early administration of fluids in order to prevent blood concentration, since it is easier to prevent that condition than to cure it. He suggests that in twenty-four hours a patient should take at least one liter of fluid for every 25 pounds of body weight.

Martin, in the *Archives of Internal Medicine*, March, 1929, reports the treatment of twenty-four patients having peptic ulcers, with intramuscular injections of a purified milk protein. He states that 83.2 per cent of these patients have been greatly improved or clinically cured. All of the patients were ambulatory and the majority of them on a general diet. Pain was the first symptom to disappear, others disappeared later. Ten cubic centimeters was given at each injection. There were two mild general reactions and one local reaction. The results in some of the individual cases were rather remarkable. One patient, who had been sick for twenty years and in constant pain for six months, was without pain on

the fourth day after the initial injection. Six months after the last injection was reported as entirely well except for an occasional mild attack of gas disturbance. No attempt is made to explain the reaction produced by the milk protein in these cases.

Rosenburg, *American Journal of Diseases of Children*, March, 1929, says: "Every person with acute cervical lymphadenitis and a high temperature should be treated by roentgen irradiation." He reports eighty patients so treated and of this number sixty-eight recovered without suppuration. He believes that roentgenization accelerates the inflammatory process so that there is either rapid resolution or rapid breaking down. Following the exposure there is relief of pain and discomfort and improvement in the constitutional symptoms. He states also that there are no unfavorable effects from irradiation. In his opinion this is the most successful treatment for acute cervical lymphadenitis.

A press notice recently received quotes a speaker as saying: "Animals have enough sense not to eat before going to sleep." Possibly this is true but the personal observations of one whose experience with animals is limited to the domestic variety suggest that though they may have sense enough not to eat before going to sleep they quite commonly do go to sleep after eating, at least they appear to go to sleep. As to wild animals, our little old story books used to tell us that the savage beast after gorging itself on its fallen prey retired to its den and slept for hours, possibly days. But perhaps it did not intend to go to sleep when it ate the meal. It is worth something to know that animals have so much sense, but perhaps like human beings they do not always act according to their better judgment.

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#### DEATHS

Edward E. Colglazier, Rush Center, aged 62, died December 23, 1928, at St. Rose Hospital, Great Bend, of perforated duodenal ulcer. He graduated from Eclectic Medical University, Kansas City,

Mo., in 1902, Kansas City College of Medicine and Surgery in 1920.

Martin L. Somers, Altoona, aged 76, died January 11 of cerebral hemorrhage. He graduated from the Hospital College of Medicine, Medical Department Central University of Kentucky, Louisville, in 1884.

S. S. McGinnis, Scott City, aged 45, was burned to death near Scott City in an aeroplane accident, April 4. He graduated from Barnes Medical College, St. Louis, in 1909. He served a term in the Kansas Legislature some years ago. He was a member of the Society.

James F. Youmans, Wichita, aged 80, died February 27 of cerebral hemorrhage. He graduated from Bennett College of Eclectic Medicine and Surgery in 1878.

#### R

**Program Seventy-First Annual Meeting,  
Kansas Medical Society, Tuesday,  
Wednesday, and Thursday, May  
7th, 8th and 9th, 1929,  
Salina, Kansas.**

All general meetings will be held in the Masonic Temple.

The following guests of honor will address the Society:

Dr. Granville S. Hanes, Professor of Proctology, University of Louisville, School of Medicine, President, Kentucky

State Medical Association, Louisville, Ky.

Dr. Logan Clendening, Associate Professor of Medicine, University of Kansas, School of Medicine, Kansas City.

Dr. Philip H. Kreuscher, Clinical Professor of Orthopedic Surgery, Loyola University School of Medicine, Chicago, Illinois.

Dr. Charles H. Nielson, Professor of Medicine, St. Louis University School of Medicine, St. Louis, Missouri.

#### PROGRAM

Address of Welcome—Roy F. Bailey, President of Chamber of Commerce, Salina.

President's Address—Dr. L. F. Barney, Kansas City.

"Sense and Nonsense in the Recognition and Handling of Early Tuberculosis"—Dr. Roland G. Breuer, Haddam.

Discussion by Dr. F. L. Loveland, Topeka.

"Low Blood Sugar in Hypothyroid Condition"—Dr. J. W. Campbell, Halstead.

Discussion by

"The treatment of Lobar Pneumonia"—Dr. F. M. Wiley, Fredonia.

Discussion by Dr. E. C. Duncan, Fredonia.

"Electrocardiography in the Clinical



Santa Fe Avenue



Study of Heart Disease"—Dr. H. E. Marchbanks.

Discussion by Dr. C. Burkhead, Wichita.

"The Early Diagnosis of Infantile Paralysis"—Dr. C. B. Francisco, Mission Hills.

Discussion by Dr. A. E. Bence, Wichita.

"Diabetes Mellitus of Infectious Origin"—Dr. George H. Penwell, Marquette.

Discussion by Dr. Fred McEwen, Wichita.

Symposium on Maternity Care.

"Prenatal Care"—Dr. J. D. Clark, Wichita.

"Postnatal Care"—Dr. M. W. Hall, Wichita.

Discussion by Dr. J. M. Singleton, Kansas City.

Paper (Subject Later)—Dr. W. P. Callahan, Wichita.

Discussion by

"Podalic Version"—Dr. H. J. Stacey, Leavenworth.

Discussion by Dr. E. A. Reeves, Kansas City.

"Studies on Influenza"—Dr. N. P. Sherwood, Lawrence.

Discussion by Dr. E. Wolf, Wichita.

"Injuries to the Coccyx"—Dr. Earl Vermillion, Salina.

Discussion by Dr. W. R. Dillingham, Salina.

"Radical Breast Amputation with the Electric Cautey"—Dr. W. E. Mowery, Salina.

Discussion by Dr. L. O. Nordstrom, Salina.

"Ketogenic Diet in Chronic Convulsive States"—Dr. Wm. C. Menninger, Topeka.

Discussion by

"Some Suggestions in the Treatment of Appendicitis"—Dr. J. N. Dieter, Abilene.

Discussion by Dr. H. R. Turner, Hope.

"Tuberculosis in Childhood"—Dr. A. J. Brier, Topeka.

Discussion by Dr. S. L. Cox, Anthony.

"Diagnosis of Gall Stones"—Dr. W. J. Walker, Topeka.

Discussion by

"Differential Diagnosis of Difficult

Micturition"—Dr. H. E. McCarthy, Kansas City.

Discussion by Dr. A. D. Gray, Topeka.

"Undulant Fever, Treatment with Vaccine, Report of Ten Cases"—Dr. Fred E. Angle, Kansas City.

Discussion by Earle G. Brown, Topeka.

"Sigmoid Diverticulitis"—Dr. C. C. Nesselrode, Kansas City.

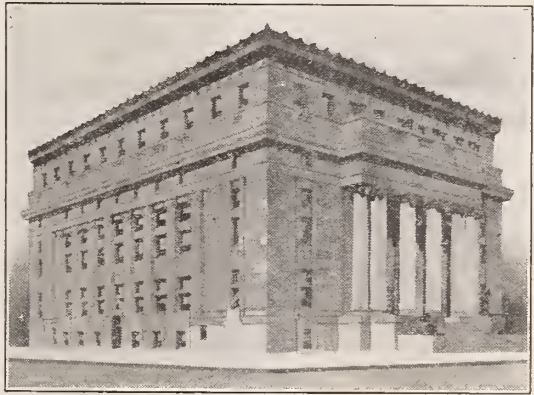
Discussion by Dr. Henry W. Horn, Wichita.

"Aortitis"—Dr. Edward Hashinger, School of Medicine, Kansas University.

Discussion by Dr. P. M. Krall, Kansas City.

"Neerology Report"—Dr. E. E. Liggett, Oswego.

Canti Film, Three Reels—Most inter-



Masonic Temple

esting scientific film in the world, showing the living tissue and cancer cells and the effect of radium upon them.

#### ANNOUNCEMENTS

##### Meeting of the Council

The Council of the Kansas Medical Society will meet in joint session with the secretaries of all county societies on Tuesday, May 7th at 12:15 p. m. in the Tent Room, Lamar Hotel. Other meetings of the council will be held at the call of the president.

The new council will meet and organize in the Shrine Parlor, first floor, Masonic Temple on the last day of the meeting immediately following the meeting of the House of Delegates.

### Meeting of Secretaries

There will be a complimentary luncheon for the secretaries of all county societies on Tuesday, May 7th at 12:15 p. m. in the Tent Room, Lamar Hotel. This will be a joint meeting with the council of the Kansas Medical Society. There will be a prepared program. Secretaries will please make reservations when registering.

### Meeting of the House of Delegates

Tuesday, May 7th

The House of Delegates will meet in

your tickets at Registration Desk.

Golf Tournament at the Salina Country Club, Monday, May 6th. It is an all-day tournament. Several flights. Many prizes. Under auspices of the Medical State Golf Association. Officers: President, Dr. R. W. Hissem, Wichita, Vice President, Dr. L. O. Nordstrom, Salina, Secretary-Treasurer, Dr. J. L. Latimore, Topeka. Committee on Arrangements: Dr. L. O. Nordstrom, Dr. C. M. Fitzpatrick, Dr. H. E. Neptune. Director, Mr. Roland Ford, Club Professional, Salina.



Salina Country Club



Memorial Building

the Shrine Parlor (Basement) Masonic Temple, at 5:00 p. m., immediately following the scientific program.

Thursday, May 9th

The meeting of the House of Delegates will be held in the Shrine Parlor (Basement) Masonic Temple, at 8:00 a. m.

### Entertainment

The annual banquet will be given Wednesday, May 8th, at 6:30 p. m. in the Banquet Room of the Masonic Temple, followed by a program and dancing. Tickets \$1.25 per plate. Please procure

### Public Meeting

There will be a public meeting Tuesday, May 7th at 8:00 p. m. in the Auditorium of the Masonic Temple. The speaker of the evening will be Dr. Logan Clendening, Kansas City.

### Hotels

Lamar Hotel

Clayton Hotel

Warren Hotel

### Exhibitors

University of Kansas School of Medicine.



Kansas State Tuberculosis Association.

C. V. Mosby Medical Book Company, St. Louis, Missouri.

Hettinger Brothers Manufacturing Company, Kansas City, Missouri.

Goetze & Niemer Company, St. Joseph, Missouri.

H. G. Fischer & Company, Chicago, Illinois.

Mid-West Surgical Supply Company, Wichita, Kansas.

Magnuson x-Ray Company, Omaha, Nebraska.

W. A. Rosenthal x-Ray Company, Kansas City, Missouri.

Victor x-Ray Corporation, Kansas City, Missouri.

Riggs Optical Company, Salina.

Medical Protective Company of Ft. Wayne, Indiana, Margaret J. Stevenson, General Agent, Olathe, Kansas.

Business meeting following luncheon in dining room.

Roll Call.

Address of Welcome—Mrs. O. D. Walker, Salina.

Response—Mrs. J. A. Dillon, Larned.

Address—Mrs. Allen H. Bunce, President National Auxiliary to American Medical Association.

Greetings from Kansas State Medical Association, Dr. L. F. Barney, President.

Minutes of last meeting.

Reports of Officers, Committees and Delegates.

Election and Installation of new officers.

Annual Banquet, 6:30 p. m., Banquet Room, Masonic Temple, for doctors, invited guests and their ladies. \$1.25 per plate. Followed by Vaudeville in auditorium, dancing and bridge.

Thursday, May 9th



Milling District

### **Kansas Medical Auxiliary—Fourth Annual Meeting**

Tuesday, May 7th, 1929, 9 to 12 a. m.

Registration—Lobby of Masonic Temple.

Get Acquainted—Shrine Parlor, Masonic Temple.

Tea, 2:30 p. m., at the home of Dr. and Mrs. W. E. Mowery, 22 Crestview Drive, Country Club Heights.

Wednesday, May 8th

Registration and Drive. Starting at 9:00 a. m. from the Temple, a ride will be arranged for all who care to go. Visiting Salina's four Colleges and a trip to Lindsborg.

Executive Board Meeting at 10 a. m.—Masonic Temple.

Luncheon—1:00 p. m. Dining Room Lamar Hotel; 75 cents a plate. Please secure tickets at time of registration.

Day is reserved for shopping and golf. Country Club will be open to all those who wish to play.

Cars will be available at all times for your pleasure and convenience.

Make your wants known at the desk.

Mrs. H. L. SCALES, Pres., Hutchinson.

The scientific program of the Kansas Medical Society will be rearranged by the Committee on Scientific work.

J. F. HASSIG, Secretary.

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### **SOCIETIES**

#### **CLAY COUNTY SOCIETY**

The Clay County Medical Society held its monthly meeting at the Clay Center Community Hospital, March 20, 1929, at 8 p. m. The program for the evening was furnished by the Medical Officers from Fort Riley. The first number was a paper on "Epidemiology of Influenza,"

by Major P. R. Hawley, M. C.; the second number, a paper on "Aviation Medicine," by Major Sheppard, M. C. The attendance at the meeting was almost 100 per cent, there being 18 doctors present.

X. OLSEN, Secretary.

#### STAFFORD COUNTY SOCIETY

Society met in St. John Thursday evening, March 14th, with the following attendance: F. W. Tretbar, J. J. Tretbar, Stafford; M. M. Hart, Macksville; L. E. Mock, R. E. Stivison, J. T. Scott, St. John.

The guest was Dr. W. F. Bernstorff, Pratt, who read a very interesting and instructive paper on Sacro-Iliac Subluxations. This paper was freely discussed and several doctors reported cases they had treated for this condition. A vote of thanks was unanimously adopted in appreciation of Dr. Bernstorff's paper.

Following this Dr. J. J. Tretbar read a paper on Tularemia, the new California disease, in which he presented the latest information regarding this newly discovered disease, also known as Rabbit Disease. It takes its name, Tularemia, because it was first discovered and recognized in Tulare County, California. It is, therefore, a western disease and is gradually spreading eastward, not yet having invaded the Orient, save through the importation of American rabbits for experimental purposes.

The paper was unusually interesting but not generally discussed, as none of the membership had ever seen a case or read much about it. Those of our membership who were not present missed a very pleasant and profitable meeting.

Other matters pertaining to the welfare of our County Society were discussed and among them the unanimous opinion expressed, that medical propaganda can be most successfully preached through the holding of Public Medical Meetings. By such meetings the general public is enabled to weigh in the balance of judgment regular scientific medicine and the narrow denominational cults and decide which is wanting. Such gatherings provide a common meeting ground for physicians and clientele, where the

latter may be taught to properly select a medical advisor and attendant.

This Society is a pioneer in this work and after two years trial is convinced of its value as a method of medical propaganda. Successful meetings can be held in any County having an active Society, and the extra effort required will fall almost entirely on the secretary.

We are hoping that every Society in Kansas will try out the Public Medical Meeting, and should they decide to do so, a Basic Science Act will follow.

#### CRAWFORD COUNTY SOCIETY

Tuberculosis Day as held by the Crawford County Medical Society, February 21, 1929, furnished a splendid example of co-operation between official and volunteer health agencies, for it was sponsored jointly by the Crawford County Medical Society and the Kansas Tuberculosis Association. All events of the day were held at Pittsburg's fine new Hotel Besse.

Three rooms of the mezzanine floor were devoted to a chest clinic conducted from 9 a. m. to 4 p. m. by Doctor Sam H. Snider of Kansas City, Missouri. This clinic covered cases referred by Crawford County doctors and throughout the day there was a group of doctors present going over the cases with Doctor Snider. The local committee had installed a stereoscope so that patients bringing x-ray plates might have them viewed, and this was a great aid in the clinic. Thirty-five patients were examined and six active cases of tuberculosis diagnosed. There were thirteen chronic cases that came for inspection and review. As is the rule of the Kansas Tuberculosis Association, no prescriptions were given, this being solely the province of the family physician.

At noon all the doctors had luncheon together, immediately followed by a motion picture "Let Your Doctor Decide," shown by Professor J. Ralph Wells of Pittsburg Teachers College, Chairman of the Crawford County Tuberculosis Association.

At 1:30 p. m. Doctor O. J. Dixon of Kansas City gave an excellent talk on "Tuberculous Laryngitis," ably discussed by Doctors Graves of Pittsburg



and Glenn of Mt. Vernon Sanatorium, Mt. Vernon, Mo. At 2:30 p. m. came Doctor P. T. Bohan of Kansas City, with an instructive lecture on "The Diagnosis and Treatment of Pulmonary Tuberculosis." This was discussed by Doctors Douglass of the Webb City Sanatorium, Webb City, Mo., and Snider of Kansas City, Mo. At 3:30 p. m. Doctor Sam H. Snider of Kansas City talked on "Compression Therapy of Pulmonary Tuberculosis" with discussion by Doctor Glenn of Mt. Vernon. At 4:30 p. m. came Doctor Frank D. Dickson of Kansas City presenting an illuminating paper on "Tuberculosis of the Joints." His paper was discussed by Doctor Granthum of Joplin, Mo.

At the banquet at the Besse Hotel at 6 p. m. Professor Wells represented the Tuberculosis Association in a short address in which he said in part: "Today's meeting is a demonstration of what we would like to do in every county in the state. We believe that to awaken the interest of ten doctors in greater precision in diagnosing and caring for tuberculosis is worth far more to our cause than giving personal attention to one hundred active cases. A meeting such as the one held today, with its far-reaching effects, is better than all of the clinics that we might ordinarily hold in this community in a year." The main address of the evening was by Doctor P. T. Bohan of Kansas City on "Heart Failure."

Doctors present at the meeting and banquet were: Alfred H. Rogers of Heppler; C. C. Fuller and H. H. Brookhart of Columbus; R. L. VanTreba of Chetopa; S. G. Ashley, R. A. Light and A. M. Garton of Chanute; O. E. Stevenson of Oswego; A. H. Adamson and J. D. Pettit of Arcadia; J. A. Settle of Walnut; M. K. Scott of Frontenac; H. L. Stelle, W. V. Hartman, C. S. Newman, Otto B. Kiehl, F. H. Rush, R. E. Jenkins, E. C. McDonald, W. H. Graves, C. M. Gibson, Herbert Smith, H. H. Bogle, H. J. Veatch, I. M. Nulton, R. M. Markham, Oscar Sharp, Ethel Sharp, and H. E. Marchbanks of Pittsburg. The following doctors from Missouri were also in attendance: Sam H. Snider, O. J. Dixon, P. T. Bohan, Frank D. Dickson, all of

Kansas City; Doctors Douglass of Webb City; Glenn of Mt. Vernon; E. J. McIntire of Carthage; Roy Meyers, S. A. Granthum, M. O. Coombs, W. E. Craig and J. W. Barson, all of Joplin; F. R. Spell of Liberal.

#### SEDGWICK COUNTY SOCIETY

At the meeting of the Sedgwick County Medical Society on March the 5th, the Basic Science Act, House Bill No. 455, and the Act relating to Public Hospitals, House Bill No. 442, were discussed. The society went on record favoring the adoption of House Bill No. 455, and the defeat of House Bill No. 442. In addition, several individual night letters were sent to our senator and representatives asking them to do all they could in the adoption and the defeat respectively of these two measures.

We have had the following programs so far this year:

January the 8th, Dr. C. R. Burkhead read a paper on "Normal Anatomy and Physiology of the Heart and Pathological Physiology of Auricular Fibrillation."

January the 22nd, a symposium on "Osteomyelitis" was given. Dr. C. H. Briggs spoke on the pathology, Dr. R. J. Dittrich on the "diagnosis, and Dr. A. C. Bence on the treatment of chronic pyogenic osteomyelitis.

On February the 5th, we had a symposium on "Pneumonia and its Sequelae." Dr. A. M. Fegtly presented a paper on "Influenza Pneumonia," Dr. C. Alexander Hellwig read a paper on "Pathology of Lobar Pneumonia," and showed specimen; Dr. F. E. Kunce gave a paper on "Lobar Pneumonia," and Dr. A. E. Gardner concluded the program with "Empyema" as his subject.

On February the 19th, we had a symposium on "Low Back Pain and Sciatica." Dr. Charles Rombold considered the subject from an orthopedic, Dr. R. A. West from a gynecologic and Dr. R. M. Gouldner from a urologic viewpoint.

On March the 5th, Dr. Paul M. Stookey, of the University of Kansas Medical School, was our speaker of the evening. He presented a paper on "Vincent's Infection." A representative of

the Extension Division of the University of Kansas presented plans for the Post-Graduate Course in Internal Medicine to be given by Dr. R. H. Musser of Tulane University during June and July. If any doctors who are not members of our society would care to register for this course here, they would be very welcome.

FRANCES H. SCHILTZ, Secretary.

### **MEDICAL SCHOOL NOTES**

Dr. Harold O'Donnell, '26, recently visited the Bell Memorial Hospital. Dr. O'Donnell has accepted a second year Fellowship at the Cleveland Clinic, Cleveland Ohio.

Dr. E. H. Dellinger, '26, visited at the Bell Memorial Hospital recently. Dr. Dellinger is at the present time practicing at Smithton, Missouri.

Dr. Paul Stookey attended the Dermatological Society meeting at Chicago in February.

Dr. Thomas G. Orr talked on Appendicitis before the Johnson County Medical Society, Olathe, Kansas, March 11. At this meeting Dr. H. R. Wahl discussed this subject from a pathological standpoint.

Dr. Nelse F. Ockerblad and Dr. T. G. Dillon recently published an article on "Ephedrin Control in Spinal Anaesthesia" in the Journal of Urology.

Dr. Russell L. Haden left Kansas City, March 14th, for a short vacation in Florida.

Dr. Charles W. Sechrist, '26, recently visited at the Bell Memorial Hospital. Dr. Sechrist is practicing in Flagstaff, Arizona.

Dr. W. F. Roney of Marysville, Kansas, has been spending several weeks in the Clinics at the Bell Memorial Hospital.

The present interns at the Bell Memorial Hospital have accepted the following appointments: Dr. J. Lloyd Collins, Cleveland Clinic, Cleveland, Ohio, Fellowship in Surgery, service beginning July 15th. Dr. Theodore Steegman, Cleveland City Hospital, Resident in the Neuropsychiatric Department. Dr. O. W. Longwood, Resident Physician and Surgeon, Bell Memorial Hospital, for the

year 1929 and 1930. Dr. John A. Billingsley, Resident in Department of Pathology, Bell Memorial Hospital. Dr. D. B. Wengert, University of Iowa, Iowa Hospital, Des Moines, Iowa. Dr. A. D. Johnston has not yet made plans for the ensuing year.

### **BOOKS**

The Medical Clinics of North America. (Issued serially, one number every other month.) Volume 12, No. 5. (Southern Interurban Clinical Club Number.) Octavo of 306 pages with 40 illustrations. Per Clinic year, July, 1928, to May, 1929. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, March, 1929.

In this number, Bass has a clinic on pellagra, Fontaine has one on tropical sprue. Burnell presents three types of circulatory failure and discusses also the interpretation of changes in body weight. Eshlemen describes some types of hypertension. Hermann discusses cardio-thoracic distress and Houston the spasmogenic aptitude. Lyons reports a case of arteriosclerosis, myocarditis and possible coronary occlusion. Lull discusses the diagnostic importance of hemoptysis. McLester considers thyroid deficiency as a cause of poor health. Ringer presents the problem of collapse therapy in pulmonary tuberculosis. Musser discusses the leucocyte response to throat infections. Robinson reports a case of coronary occlusion. There are several other equally interesting papers in this volume.

International Clinics, a quarterly of illustrated clinical lectures and especially prepared original articles edited by Henry W. Cattell, M.D., with the collaboration of numerous others. Volume 1, thirty-ninth series, 1929. Published by J. B. Lippincott Company, Philadelphia.

Professor Barker's clinic is given first place. One of his subjects is the treatment of maladies that cause headaches. The bacteriophage in relation to the phenomenon of recovery is discussed by d'Herelle. The specific prevention and treatment of poliomyelitis is discussed by Simon Flexner. Roberts has a paper on pellagra of today. Laquer discusses physical therapy in chronic arthritis. Montague has a paper on radium therapy in cancer of the rectum. Baehr's clinic covers a number of very interesting cases. In the surgical section are papers by Ashhurst, Foster and Winkelbauer.



In the section on obstetrics, Bill discusses the use and abuse of forceps. There are several other very interesting papers and clinics.

Imperative Traumatic Surgery with special reference to after-care and prognosis, by C. R. G. Forrester, M.D., Consulting Surgeon, Chicago General Hospital. Published by Paul B. Hoeber, Inc., New York. Price \$10.00.

The imperative type of traumatic surgery is the surgery of every practitioner and it must be given immediate attention. The author tells just what to do and how to do it and to his clear and concise directions has added a most illuminating and explanatory series of illustrations. Eighty per cent of all traumatic surgery is done by the general practitioner; the balance by the man who has made traumatic surgery a specialty, *i.e.*, the so-called "industrial surgeon." This text seems to be along entirely new lines particularly in the handling of fractures and dislocations which are not given classical attention but such treatment as can be applied at once with expectation of best results.

The Surgical Clinics of North America. (Issued serially, one number every other month.) Volume 9, No. 1. (Mayo Clinic Number, February, 1929) 247 pages with 141 illustrations. Per Clinic year (February, 1929, to December, 1929) Paper, \$12.00; Cloth, \$16.00. Published by W. B. Saunders and Co., Philadelphia and London.

The Mayo Clinic number of this publication is an interesting one, though in the cases reported the unusual type seems to predominate. Judd reports a carcinoma of the stomach, a hemangioma of the duodenum, stones in the common duct, papilloma of the renal pelvis. Balfour reports a benign tumor of the stomach with hemorrhage, recurring peptic ulcer following repeated partial gastrectomy and jejunostomy in such a case. Myerding reports an osteoma, a wrist deformity, chronic infectious arthritis, benign tumor of femur and endothelioma of femur. New reports some interesting surgical procedures about the head and neck. Rankin and Chumley also report a number of surgical cases in which the head and neck were involved. Harrington's cases cover a wider field, pharyngo-esophageal diverticulum, Meckel's diverticulum, carcinoma of the breast, empyema, pleural effusion and purulent

peri-carditis, pulmonary tuberculosis, diaphragmatic hernia. There are also reports of cases by Henderson, Bollman and Mann, Sistrunk, Lundy, Hunt and Hagar, Bumpus, Walters, Caylor, Pemberton and Sager, Dixon, Craig, Bine, Smith.

Getting Ready to be a Mother, by Carolyn Conant Van Blarcom, R.N., second edition, revised. Published by the MacMillan Company, New York.

This little book is prepared especially for young expectant mothers. It describes the early signs of pregnancy, the best methods for the care of the expectant mother, the confinement, care of the infant, etc. It seems to meet the requirement for information along this line. There are a good many little details that might be worth considerable in cases of this kind—things that one might easily neglect to consult the doctor about.

The Technic of Local Anesthesia, by Arthur E. Hertzler, M.D., Professor of Surgery, University of Kansas, etc. Fourth edition. Published by C. V. Mosby Company, St. Louis. Price \$6.00.

The author states that the problem to be solved is not what operations can be done under local anesthesia but which can best be so done. In this book he first discusses the drugs employed, their action, strengths of solution and methods of use. The technic of administration is described in particular detail which is made more plain by excellent illustrations. Since three previous editions have been exhausted it may be assumed that Dr. Hertzler's work in this line is fully appreciated.

The Climacteric by Gregario Maranon, Professor of Medical Pathology in the Madrid General Hospital, translated by K. S. Stevens, edited by Carey Culbertson, M.D., Associate Professor of Obstetrics and Gynecology, Rush Medical College, etc. Published by C. V. Mosby Company, St. Louis. Price \$6.50.

The author believes that a book of this kind is timely because the literature on the subject is scant. This edition is translated from the second Spanish edition. The author describes all of the disturbances that may occur during the climacteric and in any way associated with it. He explains a number of the conditions to be found and the factors responsible for them. It will be of much value

to the general practitioner who constantly comes in contact with these cases.

*Tuberculosis and how to combat it*, by Francis M. Pottenger, M.D. Second edition. Published by C. V. Mosby Company, St. Louis. Price \$2.00.

Believing that the most intelligent co-operation between patient and physician is most essential to good results in these cases and that such co-operation can be best obtained when the patient knows about his disease and what to expect, the author has put it all in plain, easily understood, terms. This book, it would seem, can be used to excellent purpose by those who have tuberculous patients.

*Injection Treatment of Internal Hemorrhoids* by Marion C. Pruitt, M.D., Associate in Surgery Medical Department Emory University, etc. Published by C. V. Mosby Company, St. Louis. Price \$3.00.

In this little book the author gives the surgical anatomy, etiology and prophylaxis, pathology, classification, symptoms, diagnosis, opinions in regard to treatment, then the injection treatment, the methods, the solutions used and the technic. Those who have cases to treat will find this a very instructive book.

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### **The Requirement of An Intern Hospital**

Before any hospital can be considered for intern training it needs to be a "registered hospital," said N. P. Colwell, Chicago (J.A.M.A., March 30, 1929). This means that it must be a worthy institution free from even a suspicion of unethical practices. Admission to the Hospital Register, therefore, is the first step in the approval of a hospital by the American Medical Association, and approval for the training of interns is the next higher list for admission to which, also, further qualifications are essential. A third still higher group is made up of hospitals approved for residencies in the several specialties. With the great improvements brought about in medical schools during the last twenty-five years, the graduates have now obtained a far better training than formerly in the examination and care of patients under the supervision of their physician-teachers, so that the hospitals which provide internships need to have developed improved educational methods hereinafter outlined. The hospital internship is now

recognized as the means of rounding out the student's undergraduate medical training and as the basis for further training leading to some specialty. Early in 1927 the Council adopted a ruling that, after January 1, 1928, no hospital would be approved for interns which did not obtain autopsies in at least 10 per cent of the deaths occurring in the hospital and that, after January 1, 1929, the requirement be advanced to 15 per cent. Briefly stated, to be approved for the training of interns, a hospital needs to develop its educational activities so that the intern will benefit from the improvements which will always result from such activities: (a) the staff members become more alive to the advances in medical knowledge and skill; (b) the equipment will be maintained in accordance with the more modern methods of diagnosis and treatment; (c) the routine procedures in the hospital, including arrangements for heat, light, ventilation and diet will be the most efficient possible; (d) histories of all patients will be kept with extra care for educational purposes as well as with the desire for efficiency; (e) the hospital records, also, will be so kept that it may be known at any time just what is going on in the institution, and its autopsy reports can be utilized in case study and in pathologic discussions in connection with its regular staff conferences, and (f) in its persistent search for facts, various measures of educational value will be developed in the hospital which will result not only in a better training for its interns but also in providing the best possible care for its patients. Such activities unavoidably transform the hospital into an excellent continuation school for its staff members. Through the Council's own representatives, the first complete investigation is now being made of all hospitals approved for interns, or which apparently are eligible for such approval. The American Medical Association does not desire authority over any hospital, nor does it even assume that it has such authority. Because hospitals are service stations for the care of sick and injured people, and because physicians are responsible for the reputation of these hos-



pitals, the American Medical Association is naturally interested in them and is proud of the marvelous extent of their improvements and the efficiency with which they are being maintained. The Association feels highly honored in the opportunity to co-operate with hospital staff members in the successful efforts they are making to provide an efficient service for their patients. With such an object in view, staff members are becoming increasingly alive to and are adopting improved methods for either diagnosis or treatment, and it is in such hospitals that interns can secure a most valuable training.

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#### **A Nutritional Disturbance in Adults Resembling Celiac Disease and Sprue**

The cases reported by William H. Holmes and Paul Starr, Chicago (J.A.M.A., March 23, 1929), illustrate a clinical state characterized by extreme emaciation, anemia, fatty diarrhea and tetany. In two of the cases the loss of weight amounted to 50 per cent of the usual body weight and, in a third, 40 per cent. Anemia was present in four of the cases. From the hematologic standpoint alone it would be difficult to differentiate the anemia present in these cases from pernicious anemia. The clinical observations, however, are quite unlike those of pernicious anemia. The co-existence of anemia and paresthesia of the extremities is not sufficient justification for a diagnosis of combined degeneration of the cord in the absence of objective signs of cord disease. The sensory symptoms of tetany resemble those of combined degeneration of the cord but differ in that they are quickly controlled by restoration of a normal blood calcium balance. Of the five cases reported, treatment with a varied diet containing small amounts of carbohydrate and fat and a large amount of protein gave the most satisfactory results. An excess of carbohydrate, particularly cane sugar, increased the tendency to flatulence, while an excess of fat increased the diarrhea. Large amounts of protein did not aggravate the tetany. Heliotherapy, cod liver oil, yeast concentrate, tomato juice and orange juice were used. Calcium salts

given in large doses during the fasting state and with meals modified the diarrhea and often raised the level of serum calcium but was not effective in controlling the symptoms of tetany. In four cases improvement in the clinical condition occurred when the serum calcium was maintained at a normal or nearly normal level. The loss of from 40 to 50 per cent of the body weight is usually fatal, and the authors are convinced that three and possibly four of the patients would have died had parathyroid extract-Collip not been available for use in maintaining a normal serum calcium. Treatment resulted in a clinical cure in three instances; one patient under treatment elsewhere is improved and one patient under the authors' observation has failed to gain in weight although diarrhea, tetany and epigastric pain have been controlled. The condition described resembles celiac disease and sprue but may easily be mistaken for other diseases. The most characteristic symptoms are emaciation, fatty diarrhea and calcium imbalance.

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#### **Vaccine Therapy**

Ludvig Hektoen and Ernest E. Irons, Chicago (J.A.M.A., March 16, 1929), report on the result of a questionnaire on vaccine therapy sent to American physicians. Of 1,261 physicians answering the questionnaire, only seventeen consider vaccine therapy to be a generally useful and superior method of treating infectious diseases. Of the 1,261 physicians, 430 do not use, or have never used, autogenous vaccines in the treatment of any disease, and 142 use or have used them very rarely; 172 physicians report having abandoned the use of autogenous vaccines entirely. Of the 1,261 physicians 577 do not use, or have never used, stock polyvalent vaccines in the treatment of any disease, and forty-nine use or have used them very rarely; 198 physicians report having abandoned the use of stock polyvalent vaccines because of their failure as therapeutic agents. One or more of the 1,261 physicians report using or having used stock vaccines in sixty-three different disease conditions. In every one of these conditions, save otitis media,

mastoiditis, acne, furunculosis and whooping cough, 90 per cent or more of the physicians of all four groups do not at present use polyvalent stock vaccines therapeutically. In the majority of instances the percentage not using is nearer 100 than 90. In the sixty-three different disease conditions in which the use of stock polyvalent vaccines is reported, the negative or inconclusive results greatly outnumber the good results in all but a few instances. Of the 1,261 physicians, 140, or 11 per cent, report untoward and harmful effects from the use of stock polyvalent vaccines. The 140 instances of harmful results include a number of cases in which death has been considered due to the use of vaccines, subcutaneously injected. Seventeen cases of asthma are reported to have followed courses of bacterial vaccines, administered to patients who previously were not known to have suffered from asthma. A questionnaire on the use of various forms of vaccine in tuberculosis was sent to tuberculosis specialists, and of the 267 that answered five state that they use tuberculin as the main form of treatment in this disease. The majority counsel against its use in all but quiescent or slightly active cases; sixty-three (23 per cent) report harmful results from the use of tuberculin, autogenous or stock vaccines, and from the "Non-Virulent T. B. Vaccine." Of these sixty-three, seven have observed deaths to occur which they attribute to the injudicious use of tuberculin; five have observed deaths to occur which they attribute to the use of stock polyvalent vaccines.

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#### Diagnosis of Early Uterine Cancer

Emil Novak, Baltimore (J.A.M.A., March 16, 1929), stresses the fact that simple pelvic examination is not sufficient in making the diagnosis in many cancer cases. The physician should, in all suspicious cases, see that cancer is ruled out. This will mean biopsy in suspicious lesions of the cervix, diagnostic curettage in suspicious bleeding from the uterus. If early cancer of the cervix is found, the patient has at least a fifty-fifty chance for cure. If early adenocarcinoma of the uterus is found, her

chances of cure should be about two out of three. Any physician can diagnose late cancer, but physicians should familiarize themselves with the clinical appearance of early cancer and of cervical lesions that are to be regarded with suspicion. Even if proved benign, such lesions are important predisposing causes of cervical cancer, and their correction, usually very easy, does much to protect the patient from cancer. The danger of biopsy, if any exists, is far more than counterbalanced by the life-saving information it often yields. There is no other way of making the diagnosis in the early stages of the disease. The same statement may be made with regard to diagnostic curettage in suspicious bleeding of intra-uterine origin. Neither biopsy nor diagnostic curettage is of unqualified value, however, unless combined with competent pathologic examination. The ideal is of course, that the surgeon himself should be a good pathologist. Although there is much discussion of the bearing on cancer mortality of such factors as the method of treatment and the histologic classification of the tumor, the fact still remains that the most important single factor is the duration of the disease. Hence the basic importance of biopsy and diagnostic curettage which are essential in the recognition of the really early stage.

—————R—————

#### Hyperparathyroidism

In the literature on osteomalacia, on multiple cystic tumors of bone and on parathyroid tumors, there is a clinical picture, found occasionally under all of these titles, which seems to deserve description as a separate clinical entity. The study of the case reported by David P. Barr, Harold A. Bulger and Henry H. Dixon, St. Louis (J.A.M.A., March 23, 1929), first called the authors' attention to this disease. A survey of the literature revealed some remarkable and little emphasized associations: 1. Few cases of proved multiple giant cell tumors of bone have been reported in the literature. (2) It has been found by many observers that osteomalacia is associated with a negative calcium balance and increased excretion of calcium in the urine. (3) The



occurrence of calcium stones and distressing urinary symptoms has been frequently reported in cases of osteomalacia. (4) There have been cases of osteomalacia and other bone diseases in which parathyroid tumors or parathyroid hyperplasia was noted at the time of autopsy. (5) A few cases of osteomalacia have been associated with muscular hypotonia and a complete inability to walk. (6) A high calcium content has been found occasionally in cases which were called osteomalacia and which were associated with multiple cystic tumors of bone. (7) Recent work on parathyroid extract has demonstrated the physiologic changes that occur when there is an excess of the parathyroid secretion. These include (a) hypercalcemia; (b) increased urinary output of calcium and negative calcium balance; (c) depletion of calcium in bone, and (d) hypotonicity of muscle. With the assembling of all evidence, it seems justifiable to introduce the name of hyperparathyroidism and to consider under this heading the various cases as constituting a clinical entity as definite and distinct as parathyroid tetany or exophthalmic goiter. The clinical features probably are: (1) Rarefaction of bone. (2) The occurrence of multiple cystic bone tumors, several of which on pathologic examination have been found to be giant cell sarcomas. (3) Muscular weakness and hypotonia. (4) Abnormal excretion of calcium in the urine and the formation of calcium stones. (5) Abnormally high serum calcium. All of these changes are secondary to, or associated with, a parathyroid hyperplasia or parathyroid tumor.

—R—

#### **Treatment of Trophic Ulcers by Alcoholic Injection of Blood Vessels**

Although C. F. McClintic, Detroit (J.A.M.A., March 23, 1929), has had gratifying success with ganglionectomy alone or in combination with a ramisection, and although in no case has he included periarterial sympathectomy with these measures, he has discarded ganglionectomy in the neck in favor of a ramisection. In his work the same results have been obtained in the upper extremity by cutting the rami to the

brachial plexus as have been secured by removing the stellate ganglion along with the cervical sympathetic ganglions and chain. In the lower extremity a combined lumbar ganglionectomy and ramisection have been used for vasomotor disturbances and spasticities. The conditions in which he has used the alcoholic injections are: (1) generalized senile arteriosclerosis; (2) varicose ulcers; (3) chronic indolent ulcers of unknown etiologic origin; (4) endarteritis obliterans, and (5) Raynaud's disease. The procedure is indicated also in (a) chronic arthritis deformans; (b) painful acroparesthesia; (c) as a preliminary procedure to the amputation of an extremity for gangrene, in that the amputation can be done more safely at a lower level; (d) roentgen burns; (e) gangrene from frostbite, and (f) certain types of hypertension. The femoral artery is exposed in the lower two thirds of Scarpa's triangle, freed, and supported by the assistant on his index and second fingers. With a very fine needle from 1 to 2 cc. of 95 per cent alcohol is injected into the nerve bearing tissue of the artery until an alcoholized ring or collar completely encircles the artery. In order to reach the back of the artery a torsion is done with forceps. Care should be taken not to enter the wall of the artery. When completed the artery appears as if it had been seared by a hot iron, the loose tissue being of a brownish color and the arterial wall yellowish white. The operation here described is recommended because: (1) The effect is immediate; (2) there is no period of vasoconstriction as in a periarteriorrhaphy; (3) the operation requires only a few minutes; (4) the technic is simple; (5) the operative shock is of little consequence; (6) the results are more permanent than those of periarterial sympathectomy, and (7) the dangers of an accident to the blood vessels are eliminated.

—R—

#### **Diabetes In Twins**

Only seven instances of diabetes in twins are on record, W. Stanley Curtis, Boston (J.A.M.A., March 23, 1929), asserts. To these he has added six, making a total of thirteen. The existence of dia-

betes in twins in some cases almost simultaneously points to an hereditary background and offers a good field for the investigation of diabetes as a problem in heredity. When diabetes develops in a twin one should consider the other potentially diabetic, particularly if the two are homologous, and any undue strain on the carbohydrate metabolism should be guarded against. The recognition of eight twins (four sets) with diabetes in a series of about 6,000 diabetic patients, when compared with the estimated number of twins in such a group suggests a larger proportion of diabetes in twins than is the case in single individuals.

—————R—————

### New and Non-Official Remedies

Syrup Ephedrine Hydrochloride (Double Strength)—Swan-Myers. It contains ephedrine hydrochloride—Swan-Myers (New and Non-official Remedies, 1928, p. 176) 0.4390 Gm., in 100 cc. ( $\frac{1}{4}$  grain per fluidrachm) and alcohol 12 per cent. Swan-Myers Co., Indianapolis.

Squibb's Mint-Flavored Cod-Liver Oil.—Cod-liver oil—Squibb (New and Non-official Remedies, 1928, p. 253) containing 0.67 per cent of oil of spearmint as flavoring. E. R. Squibb & Sons, New York.

Tetanus Antitoxin (Bovine)—A tetanus antitoxin, concentrated (New and Nonofficial Remedies, 1928, p. 357) derived from the blood serum of cattle immunized against the toxin of *B. tetani*. Marketed in packages of one syringe containing 1,500 units (one immunizing dose). H. K. Mulford Co., Philadelphia.

Capsules Ovarian Substance, Desiccated—P. D. & Co., 5 grains—Each capsule contains 5 grains of ovarian substance, desiccated—P. D. & Co. (New and Non-official Remedies, 1928, p. 290). Parke Davis & Co., Detroit.

Tablets Whole Ovary—Lederle,  $2\frac{1}{2}$  grains—Each tablet contains  $2\frac{1}{2}$  grains of whole ovary—Lederle (New and Non-official Remedies, 1928, p. 292). Lederle Antitoxin Laboratories, New York.

Rabies Vaccine—Gilliland (Semple Method)—Antirabic vaccine (New and Nonofficial Remedies, 1928, p. 363) prepared according to the general method of

David Semple (phenol killed). Marketed in packages of fourteen syringes each containing 2 cc. The Gilliland Laboratories, Inc., Marietta, Pa.

Antipneumococcic Serum. Type 1—This antipneumococcus serum (New and Nonofficial Remedies, 1928, p. 361) is also marketed in packages of one 50 cc. gravity container. E. R. Squibb & Sons, New York.

Antistreptococcic Serum—Squibb. This antistreptococcus serum (New and Non-official Remedies, 1928, p. 362) is also marketed in packages of one 50 cc. gravity container. E. R. Squibb & Sons, New York. (J.A.M.A., December 8, 1928, p. 1805).

Salyrgan—Mersalyl—Sodium  $\{o\}$ -[hydroxymercuric-methoxy-propylcarbonyl] phenoxyacetate. Salyrgan contains 39.6 per cent of mercury in nonionizable form. Salyrgan has been demonstrated to exert a destructive action on the spirochete of syphilis in rabbits, but is used chiefly as a diuretic. It induces diuresis only provided sufficient renal tissue is still intact and is therefore contraindicated in acute diseases of the kidney as well as in advanced nephritis. It is effective in ascites and edema of cardiac and cardiorenal origin; also in ascites resulting from cirrhosis of the liver. Salyrgan is supplied only in the form of a 10 per cent solution in ampules of 1 cc. and 2 cc. H. A. Metz Laboratories, Inc., New York.

Bromipin 33 per cent—Brominized Sesame Oil 33 per cent—Merck. A bromine addition product of sesame oil, containing from 31 to 35 per cent of bromine in organic combination. It acts like the inorganic bromides. The combination is not broken up in the stomach; but a portion of the bromine is split off in the intestine; the remaining compound is readily absorbed and largely deposited in the tissues where it is slowly split up. The product is also used as a contrast medium for roentgen diagnosis of the tracheo-bronchial tree. It is stated to be applicable in cases of mild or medium tuberculosis in which the use of an iodized oil is contra-indicated. Merck & Co., Inc., Rahway, N. J. (J.A.M.A., December 22, 1928, p. 1995).



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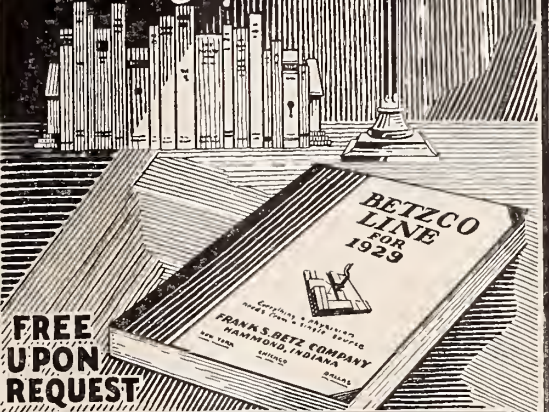
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### The Ninhydrin Test in Pregnancy

The Abderhalden Ninhydrin test for pregnancy has fallen into disrepute. There is no evidence that a specific ferment exists in pregnancy. While tests on serum from pregnant women are uniformly positive, the large number of positive results on the serum of men and nonpregnant women proved the test of no value for the diagnosis of pregnancy. (J.A.M.A., March 9, '29, p. 829).

—————R—————

### Antiscarlet Fever Preparations

Scarlet fever streptococcus antitoxin is a horse serum preparation. It should be used only in those persons who are susceptible and already infected so that they are in danger of developing scarlet fever at once. The protection conferred by the prophylactic dose of antitoxin is transient. Scarlet fever streptococcus toxin does not contain horse serum. It should be used in five graduated doses for active immunization of susceptible persons who do not already have scarlet fever. (J.A.M.A., March 9, '29).

—————R—————

### Sodium Bicarbonate and Calcium Carbonate for Alkalization of Urine

Both sodium bicarbonate and calcium carbonate are effective antacids as far as the gastric secretion is concerned. However, sodium bicarbonate is much more efficient in aiding in the alkalization of the urine than calcium carbonate. The reason for the difference lies in the fact that sodium salts, such as bicarbonate, are freely absorbed by the intestine. On the other hand, calcium carbonate itself is not susceptible of absorption. Sodium bicarbonate may be freely used to the extent of actual alkalization of the urine, though it may take as much as 30 Gm. or more. (J.A.M.A., March 9, 1929).

—————R—————

### RELAXATIVES

✱ ✱ ✱

### CONSOLATION

"Well, Mrs. Johnson," a colored physician announced, after taking her husband's temperature. "Ah has knocked de fever outen him."

"Sho' nuff," was the excited reply. "Am he gwine git well, den?"

"No'm," answered the doctor. "Dey's no hope fo' him, but you has de satisfaction of knowin' dat he died cured."

### Owl Town Reminiscences

#### "THE RHUBOTTOM TWINS"

Rhubottom was a larger man  
Than you will often see;  
His wife was far from delicate,  
Almost as large as he.  
They built a cabin in the marsh,  
Some seven miles from town,  
And notified me in advance,  
They'd sometime call me down.  
In due time, through a messenger,  
That call was made in haste;  
Come out to Joe Rhubottom's, and  
Be quick, no time to waste.  
'Twas mid-day, not a cloud above,  
The day was calm and fair,  
I jumped into my two-wheeled cart  
And simply split the air.  
Arrived just in the nick of time,  
A Rhubottom, a son,  
Examined carefully and said,  
"Joe, there's another one."  
He rolled his eyes, his hair stood up,  
His face first pale, then red,  
And finally he blurted out,  
"Put sideboards on the bed."  
After thought—  
I cared for her in a scientific way,  
But Joe hasn't paid me to this very day.

✱ ✱ ✱

There was a young lady of Ryde  
Of eating green apples she died.  
Within the lamented  
They quickly fermented  
And made cider inside her inside.

—Chicago Journal of Commerce.

✱ ✱ ✱

In Pamela's wardrobe a moth once appeared;  
Exceedingly hungry was he;  
He downed some sheer stockings and speedily  
cleared

A bundle of choice lingerie;  
Ate four evening dresses and then passed away  
With a sigh of profound resignation.  
An inquest was held on the following day  
And the verdict was: "Death from starvation."  
—Montreal Star.

✱ ✱ ✱

### NEARER GOD

The parish priest of Austerity,  
Climbed up in a high church steeple,  
To be nearer God, that he might hand down  
His word unto the people.

So he daily wrote in sermon script,  
What he thought was sent from heaven,  
And he dropped this down on the people's heads  
Two times one day in seven.

In his age, God said: "Come down and die,"  
And he cried from out the steeple,  
"Where art Thou, Lord?" and the Lord replied,  
"Down here, among my people."  
—Rt. Rev. Wm. Croswell Doane.

✱ ✱ ✱

### WILL AND WON'T

A daky was struggling with a balky mule when  
a bystander said: "Mose, where's your will  
power?"

"Mah will power am right wid me, but you  
oughta see dis yer animal's won't power!"



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### The Repair of Hare Lip and the Accompanying Nasal Deformity

EARL C. PADGETT, M.D.

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A good repair of a cleft lip and the accompanying nasal deformity is a work of art and of the two, the correction of the nasal deformity is the more important in relation to ultimate end result and often the most difficult to accom-

plish. A good repair of a cleft lip and the accompanying nasal deformity is a work of art and of the two, the correction of the nasal deformity is the more important in relation to ultimate end result and often the most difficult to accom-

plish. therefore, to make a lip that projects and is not stretched tightly over the alveolar arch. A long lip does not give a good appearance. A short loose lip with the vermillion border rolled slightly upward into a cupid's bow is aesthetically the most pleasing.

A cleft lip, partial or complete, on one side or on both sides, always presents a characteristic deformity of the nose—a deformity that, in the past, has not been



CASE I  
Shows baby before operation.

CASE I (after operation)  
Same baby 2 weeks after operation. Note that the left nostril has been elevated and is symmetrical with the right.

plish. Certainly the operation does not attain the dignity of an art until the nostrils are similar and properly balanced although the lip may be a perfect cupid's bow.

A good lip on cross section from the base to the nose should be triangular in shape with the base of the triangle downward and the lip should be moderately short in length. On a profile view the upper lip normally projects somewhat beyond the lower lip. One should strive,

corrected as a general rule. The usual photographs presented with articles on the subject, I think, will bear out this statement. In a single cleft of the lip the nose points somewhat tangentially to the side opposite the cleft and in individuals not properly repaired during infancy, the nasal bones eventually deviate quite noticeably. The ala on the side of the cleft is pulled outward from the premaxillary process onto the maxillary process. The apex of the nostril on the

side of the cleft thus becomes lower at the tip joint of the nose than on the opposite side. The tip of the nose on the side of the cleft is flattened and the lateral side of the nostril is lengthened. The ala of the nose on the side of the cleft is often a little shorter in the cross-wise direction. Not only the soft tissues are deformed but the elastic tendency of the nasal cartilage to assume the correct shape of a nostril, is changed and thereby the scaffolding of the nose is ren-

then to slide the soft tissues of the low side of the nostril upward, sewing the two halves of the columella together in such a manner that the upper level of the corrected nostril is on a level with the opposite nostril, or even very slightly over corrected. The skin at the tip of the nose is well undermined with the dissecting scissors and if redundant skin is present at the tip of the nose after raising the low nostril, a small v-shaped piece is excised to give the tip of the



CASE II  
Shows baby at 2 weeks of age.



CASE II  
Same baby 5½ months after operation. Note the lower right nostril and that the ala is externally rotated and that nostrils have been balanced and are symmetrical and equal.

dered asymmetrical. Very important in the repair is the recognition of the fact that besides the outward displacement of the ala it is also rotated externally on an axis perpendicular to the face. Thus, in the repair of a cleft lip, if one concentrates on the correction of the nasal deformity first and is successful, the correction of the deformity of the lip is not so difficult.

As emphasized by Blair, to raise the low nostril on a level with the normally situated nostril in older children, it is often necessary to split the columella in the mid-line, to free slightly the low side of the columella and also the adjacent nasal mucosa from the nasal septum and

nose a good contour. Sometimes in older individuals the cartilage of the tip of the nose has to be re-shaped by removing a v-shaped piece at the point that projects too prominently.

Before bringing the ala to the pre-maxilla, all are agreed on the absolute necessity of first thoroughly loosening the soft tissue on the short side of the cleft from the maxillary bone. Because the ala is found rotated outward on an axis perpendicular to the long axis of the face, at the time of the repair the ala should be internally rotated by selecting a point at the base of the ala fairly well outward toward the cheek and bringing



this point up to the base of the columella on the premaxilla.

Cases are continually being observed that lead one to believe that a wiring operation in infancy is to be avoided if possible. The lip can be repaired over the cleft in the alveolar ridge and in babies the tension of the soft tissues across the cleft soon causes the cleft in the alveolar ridge to approximate; in older children with erupted teeth, if the repair of the soft tissues does not cause

upper jaw deformity. As yet statistics are not available as to the percentage of jaw deformities that follow wiring operations but observations suggest that it is fairly high. Due probably to interference with the tooth buds the maxillary bones fail to come forward properly and a recessive superior maxilla results. The alveolar arch becomes more angular and narrower and the palate arch becomes elevated markedly. When such a condition occurs, normal occlusion of the teeth



CASE III

Figure 3 shows baby with complete cleft on left and partial on right.

CASE III (after operation)

Same case at 6 months of age.

the bony cleft to come entirely together, an orthodontic appliance will complete the apposition. When apposition of the alveolar ridge is attained it is only necessary to denude the contact points of the mucosa and turn the flaps of mucosa across the cleft and union results. This procedure is done at the time of the repair of the palate and does not necessitate an additional operation.

Individuals are now being seen at about the age of adolescence on whom a wiring operation was performed in infancy which have developed a peculiar

is prevented. A relatively prognathous lower jaw results. The lower alveolar arch may be found to be from one-half to three-quarters inch in advance of the upper alveolar arch. Normally, the alveolar arch of the maxilla should protrude slightly beyond the alveolar arch of the mandible. Although this "dish face" deformity in some cases can be improved by appropriate surgery, the procedures are trying to both patient and surgeon.

In some double clefts, the columella is very short. This presents a problem dif-

ficult to overcome. The tip of the nose usually remains flat if one does nothing to elevate it. By the following procedure the columella can be lengthened somewhat. The columella is split lengthwise in the mid-line, the nasal mucosa is dissected from the nasal cartilage back about one-quarter of an inch on both sides. The cartilage is split in a slanting direction downward and backward to allow the cartilage of the tip of the nose to be free to raise upward. A diamond

The excision of a v-shaped piece from the septum behind the premaxilla is generally undesirable. One does not want the premaxilla to fall back too far. Good length of the septum which holds the premaxilla forward aids in giving the forward position necessary to prevent an undesirable flat lip. At the time the cleft palate operation is performed, the alveolar ridge is approximated by denuding the ends of the bones of the mucosa and turning the flaps of mucosa across



CASE IV

Figure 4 shows drawing of baby when 2 weeks of age. It had a wide separation of the alveolar ridge.



CASE IV

Same baby at 15 months when it came back to have the palate repaired. Note that the nostrils are perfectly symmetrical and equal.

shaped piece of tissue is then removed from the soft tissue of the premaxilla at the base of the columella. The columella is then lengthened by elevating the soft tissue of the premaxilla upward to form the base of the new columella. This lengthening of the columella tends to elevate the tip of the nose. After a week the lip is repaired.

In double alveolar clefts the premaxillary process holds the lip too far forward at first but after the repair of the lip as the baby grows, the face shapes up and the premaxillary process falls back.

the cleft. In certain of these double clefts with a free premaxilla, fixation by wire may be necessary to hold the loose premaxilla even though one risks a growth deformity later. However, when wiring the premaxilla to the maxilla it is not necessary to run the wire through the bone of the premaxilla. The wire need only surround the bone. Thus the growth of the tooth buds of the premaxilla is not hindered.

Agreement is now quite universal that the best time to repair the lip is as soon after birth as the child can be put in





CASE V

Shows complete double hare lip without any columella.



CASE V

Same case at the age of 5 1/2 months after lip was repaired and columella lengthened.

good condition. A few days or a week of careful feeding along with some normal saline in co-operation with the pediatrician usually improves the condition of the baby so that it withstands the operation very well. Better results attend the closure of the palate defect after one year of age than earlier. However, the palate should be repaired before the child begins to speak. Probably fourteen or fifteen months is about the ideal age for palate closure, providing the child is in good general condition.

R

### The Acute Abdomen

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Read before the Central Kansas Medical Society at Ellsworth, Kansas, January 17, 1929.

This subject is a very hackneyed one having been presented frequently and repeatedly, either under this title, or some modification, to medical organizations since their first inception and yet it is as live a subject as it has ever been. Today we are not satisfied to say, "well this is an acute abdomen and we will cut in and see what is the trouble." We want to know, if possible, just what the path-

ological condition is before the incision is made and be ready to meet it as expeditiously as possible. Furthermore, there are a few conditions, e.g. acute salpingitis and most acute gallbladders, that will have a less stormy convalescence and a more satisfactory recovery if the acute symptoms have subsided before the operation is made.

Also not all cases having acute abdominal symptoms have abdominal pathology. I have had more than one case sent into the hospital to me for an immediate operation which on careful examination revealed a basal pneumonia. At the time of writing this I have had a young woman with "flu" who was sent in for an emergency operation for appendicitis. Only a few years ago I heard Doctor Richard Cabot say that a large proportion of the cases of locomotor ataxia he saw had had their appendices removed unnecessarily. Is this not a stigma on the profession?

On the contrary in many conditions, e.g. perforated peptic ulcer, immediate surgical measures must be instituted or a fatality will ensue. Most of these patients will recover if operated upon with-

in six hours, many of them will recover if operated on within twelve hours and very seldom one will after twenty-four hours.

Therefore, in cases of acute abdomen you have very little time to spend on extensive laboratory work, reading, etc., so it behooves us to have such a knowledge of these conditions that one can make a quick and positive decision. Cope has paraphrased the motto "Do it now"! for the business man to "Diagnose now"! for the medical man in cases of acute abdomen. I recall, in a discussion of acute intestinal obstruction at the State Medical Society, a man getting up and advising giving a barium meal and taking an x-ray picture to locate the site of the lesion before making the incision. Would you want this man to decide on your fate if you had an acute abdominal lesion?

Surgery has done much, perhaps I should say most, to open the pages and push away the veil which has obscured the early symptomatology and early pathology and write and rewrite the early diagnosis of the acute abdomen. Pathology of the living is quite, and frequently entirely, different from morgue pathology. Nearly all fatal cases of acute abdomen terminate in either general peritonitis or intestinal obstruction and by the time this stage has arrived the early pathology has been so distorted that it gives a misconception of the initial lesion with its early symptomatology, physical findings and laboratory expressions. Since the advent of general anesthesia and the aseptic scalpel the danger of opening the peritoneum has so greatly diminished that the surgeon has been enabled to see in vivo the very earliest initial departures from normal and by correlating the findings in the various stages the modern conception has been changed; volumes have been written and much of the old discarded or replaced by more definite conceptions. As an example of this lat-instead of having twenty or thirty different common diseases of the stomach as we were taught when I was a medical student we realize now that there are only two common diseases of the stom-

ach, ulcer and cancer.

Morphine: Perhaps one of the most vital experiences in the handling of acute abdominal symptoms is the use of morphine. With a patient writhing with pain and unable to give a statement of the facts and the family demanding that relief be given, it is at times hard to refuse it until a diagnosis is made. How many patients have been lulled into a sense of tranquility thinking they are improving and allowed to pass to the great beyond because the symptoms have been masked and prompt surgical measures not instituted, the Lord only knows. Is this not a great responsibility that is hard to throw off? On the other hand there is no better temporary treatment for obstructive symptoms such as renal or biliary colic than a large dose of morphine. Shock from the pain of these conditions is said to have produced death which could have been prevented by an adequate dose of morphine. *But be sure of your diagnosis before you give it.*

Laxatives: It has been only a few years since every case of belly ache received immediately a laxative and frequently several. The physician formerly ordered it the very first thing he did and I am sorry to say that far too many continue doing so.

With the exception of manipulative treatments, it is absolutely the worst thing that can be done in any inflammatory condition of the abdomen. Physicians must absolutely and unequivocally stop doing this before a diagnosis is made and, furthermore, they should start a campaign warning the public of these two extremely dangerous practices. How many patients have been rushed into a casket by receiving a fatal dose of laxative, usually castor oil, again, the Lord only knows. On the other hand I know of no better treatment in acute food poisoning, so called ptomaine poisoning, than one or two ounces of castor oil given early to remove the toxins. Again, let me warn you, *be sure of your diagnosis, be sure you have no perforations, no marked intestinal obstruction and no peritoneal inflammatory condition.* Moy-nihan has written a nursery rhyme which



it would be well to place on the wall of every home. It reads:

"Perforation means purgation

With the appendix kinked and bad;

Both food and drink will worry him

And aperients drive him mad."

He even goes so far as to say "to give aperients to children who have stomach ache is homicidal."

When you think of acute abdominal cases do you not immediately think of a triad of symptoms, viz: pain, vomiting and rigidity, of appendicitis and of a surgical operation? Why is this? Taking them in the reverse order, most acute abdomens are surgical. Cope says "The general rule can be laid down that the majority of severe abdominal pains which ensue in patients who have been previously fairly well, and which last as long as six hours, are caused by conditions needing surgical intervention."

Why do you think of a diagnosis of appendicitis? Because more than fifty per cent of all acute abdominal cases coming to the operating table in large general hospitals are cases of acute appendicitis. As has been pointed out by many writers there are too many so-called surgeons who do not attempt to make a diagnosis but simply operate. Spot diagnosis may be impressive at times but it is never safe and sound. Recently I was very much surprised at one of our surgeons unmercifully condemning the surgeons of a large eastern hospital for not operating on his brother. All he knew was that the brother had been taken with acute abdominal symptoms and had been in the hospital eight days and had not been operated for appendicitis. When I asked him how he knew it was a case of acute appendicitis he replied that most cases of acute abdominal symptoms are acute appendicitis.

Several years ago I was away from home for several weeks and when I returned home I learned that one of my clients had been operated during my absence for acute appendicitis and died. Before leaving I had diagnosed her having an ovarian cyst the size of a small grape fruit. Although the surgeon did not tell the family of his mistaken diag-

nosis, he admitted to me that she had an ovarian cyst with a twisted pedicle, after I had told him what she had. Would you want your abdomen opened up at any time, and worse yet, with acute abdominal symptoms, by one who has not made a sincere effort to make a diagnosis, a fifty-fifty chance of being correct? No! Nor should it be done on one of your clients. Again Cope says, "To attempt a diagnosis prevents carelessness and carelessness in urgent acute abdominal diagnosis is akin to callousness."

Why do you think of the triad of symptoms, *pain, vomiting and rigidity*? Pain is practically always found in the acute abdomen, vomiting generally, and rigidity frequently. Should we analyze these three symptoms carefully they will aid greatly in the diagnosis.

Conditions causing acute abdominal symptoms may be roughly divided into three groups of symptoms, obstructive, perforative and inflammatory each of which is more or less characteristic, but all of which more or less overlap.

In obstructive cases, renal, biliary and intestinal, the pain is intermittent or remittent with exacerbations, generally radiating according to the nerve supply of the part affected, vomiting is more likely to occur at the height of the pain, and rigidity absent or at least is not marked and diminished between the attacks of pain, and the patient is restless.

In perforative cases, the pain is sudden, of a constant character, the abdomen is most rigid, board like, vomiting will depend upon the contents extravasated, the patient remains in fixed position, and will not move, hyperesthesia usually is absent, and evidence of shock is usual.

In inflammatory cases the pain is more of a severe soreness, the vomiting most likely to be constant, hyperesthesia is the most marked, fever is likely to be higher and the patient assumes a selected position, not so fixed as perforative cases and not so restless as obstructive cases.

Pain: The location of the pain is more or less diagnostic of the location of the lesion and is generally the most severe

over the organ involved and will radiate according to the nerve supply. The gall-bladder is supplied by the 8th dorsal nerve hence the pain under the angle of the right scapula. The diaphragm, by the phrenic, and through the 4th cervical we have the shoulder pains in liver abscess, subdiaphragmatic abscess, perforated peptic ulcer, diaphragmatic pleurisy, acute pancreatitis and rupture of the spleen.

The small intestines and mesentery are supplied by the 9th, 10th and 11th dorsal, therefore, the pain is in the epigastrium and around the umbilicus while the large bowel is supplied by other nerves and the pain is generally in the hypogastrium.

The appendix is probably supplied by the 10th dorsal which accounts for the pain in the beginning being first revealed around the umbilicus and epigastrium the same as the small intestines but, occasionally it radiates down into the testicle due to the irritation of the ureter.

The testes develop embryologically in the region of the kidney and later travel down to the scrotum, so that the kidney, ureter and testicle have a common nerve supply which explains the pain in the testes in gento-urinary affections.

*The Acuteness of the Pain Is Important.* Perforation of a peptic ulcer and acute pancreatitis are the only two abdominal conditions likely to cause a man to faint, but a woman may also faint from the rupture of an ectopic pregnancy or from a twisted pedicle of an ovarian cyst.

*Vomiting.* According to Cope vomiting in acute abdominal cases is almost always due to one of three causes.

(1) Severe irritation of the nerves of the peritoneum or mesentery, e.g. consequent to the perforation of a gastric ulcer or of a gangrenous appendix or torsion of an ovarian cyst pedicle.

(2) Obstruction of an involuntary muscle tube, e.g. biliary ducts, the ureter, the uterine canal or the intestines.

(3) The action of absorbed toxins upon the medullary centers, e.g. cases of septic peritonitis.

In perforated gastric ulcer the irritation is severe and vomiting is profound until the fluid is rapidly diluted by the peritoneal fluid and then may subside temporarily to begin anew when a general peritonitis occurs.

In acute pancreatitis the gland is intimately associated with the coeliac plexus and vomiting is very severe and frequently persistent.

The character of the vomit is important, especially feculent vomiting which is pathognomonic of intestinal obstruction either mechanical or paralytic.

*Appendicitis.* As has been stated this is the most frequent and probably the most important abdominal condition. At times one will not encounter any difficulty in making a diagnosis; the case will be so typical that no doubt, whatsoever, will exist, while at other times it may simulate almost every condition in the abdomen. Were one every time able to accurately diagnose every case of appendicitis and to diagnose all of the conditions with which it may be confused, there would be very few times he would not make a perfect diagnosis in abdominal conditions.

One author points out twenty-two common conditions from which an early case of appendicitis must be differentiated, not including tropical diseases, and six general conditions from which late conditions must be differentiated.

The difficulties of diagnosis of appendicitis are greatly increased by the many different anatomical positions it assumes. It is usually described as being pelvic, iliac or ascending, but as a matter of fact the tip may be most anywhere in the abdomen, even in the left lower quadrant and these different positions cause it to produce different symptoms and different complications.

Time will not permit even a complete diagnosis of appendicitis.

The symptoms and local signs of an attack are:

- (1) Pain (epigastric then right iliac)
- (2) Vomiting, nausea, anorexia
- (3) Local deep tenderness (per abdomen or per rectum.)
- (4) Local rigidity of muscles (inconstant)



- (5) Local distention (inconstant)
- (6) Superficial hyperesthesia (inconstant)

(7) Fever

(8) Constipation

(9) Testicular symptoms (uncommon)

The late John B. Murphy pointed out many years ago the significance of the sequence of the symptoms which occur in the following order:

1st Pain usually epigastric or umbilical

2d Nausea and vomiting

3d Local iliac tenderness

4th Fever

5th Leucocytosis

He said, "The symptoms occur almost without exception in the above order, and when that order varies I always question the diagnosis."

I will repeat the order of the symptoms.

1st Pain usually epigastric or umbilical

2d Nausea, vomiting

3d Local iliac tenderness

4th Fever

5th Leucocytosis

I shall mention only a few of the common difficult differentiations.

*Cholecystitis.* Cholecystitis causes pain, vomiting, fever, constipation, local tenderness and leucocytosis. The pain especially if there be stones, usually radiates up to the chest especially to the angle of the right scapula. In my experience the leucocytosis is usually lower than in appendicitis. The point of tenderness is the most characteristic differential point; it is higher, just below or under the costal border unless the liver or gallbladder is swollen and then these can be outlined. Frequently there is a history of jaundice occurring after previous attacks.

It is important to make a diagnosis of cholecystitis for these cases seldom rupture and when operated during the height of an attack will not have the smooth convalescence and complete recovery of an operation made during an interval. Too frequently when operated during an attack only a cholecystotomy may be done which is only a temporary measure and makes the cholecystectomy

which has to be done later much more difficult.

*Acute Right Sided Pyelitis.* This is frequently mistaken for appendicitis. I recall seeing a newly married woman a number of years ago in consultation, who had had an initial chill, pain in the right lower quadrant, hyperpyrexia, painful and increased frequency of urination. The attending physician without an examination of the urine had urged an immediate operation for appendicitis. I was called and we disagreed as to the diagnosis or advisability of operation. He said without an immediate operation he would quit the case and that I would have to accept the full responsibility which I did. Urinalysis revealed four plus pus and under medicinal treatment she completely recovered. Three years later she gave birth to a boy and I have now watched her for more than fifteen years and she has never had a relapse and has enjoyed perfect health.

This case recalls only too vividly another case I did operate. I was called to see an obese woman who was complaining of severe pain in her right lower quadrant. Two hours before she had started with a chill, vomited and the pain was severe. There was tenderness and hyperesthesia in the right lower quadrant and her temperature was 105°. She was rushed to the hospital and without taking time for an urinalysis, operated. To my chagrin, there was a normal appearing appendix, moderate salpingitis and a gallbladder filled with stones. The appendix was removed along with one tube, but owing to the low incision the gallbladder was not disturbed. Two months later she developed a gangrenous gall-bladder which we removed but the convalescence was so stormy we thought we would lose her. Following this she developed a ventral hernia and soon began having the same old attacks of chills, fever and pain in the right lower quadrant. Later another surgeon removed her right kidney and she recovered. Now, when I think of her I wish I had never seen her and she, too, thinks likewise of me. This was several years ago and I assure you I have never made the same mistake since. It only takes a minute to

examine the urine. As a rule the differential diagnosis between appendicitis and pyelitis is easy. The symptoms may be tabulated as follows:

#### Acute Pyelitis

- 1st Initial chill the rule
- 2d Temperature 103° or more
- 3d Pain on urination and increased frequency of urination
- 4th Abdominal muscles often relaxed
- 5th Pus in the urine

#### Appendicitis

- 1st Chill unusual
- 2d Temperature as high as 103° uncommon
- 3d Urinary symptoms are uncommon
- 4th Local rigidity frequent
- 5th No pus in the urine

*Dysmenorrhea.* We have all seen young women who have had their appendices removed which when you have analyzed their symptoms, you know was unnecessary and bad surgery. The differentiation, if a history is taken, is usually very easy, so easy I will not discuss it.

*Ectopic Gestation.* This is occasionally diagnosed appendicitis but rarely should be for there generally is a history of an unusual menstrual irregularity, slight flowing accompanying the pains, a small tender mass at one side of the uterus, often a history of fainting and a secondary anemia.

*Acute Salpingitis.* I have a patient in the hospital now who had acute sausage-like tubo-ovarian abscesses whose appendix was removed only five months ago for the same symptoms. In these cases the pain and tenderness is in the pelvis and there is generally bilateral rigidity, which is not marked, in the hypogastrium and vaginal examination reveals a fixed tender uterus usually retroverted.

*Ruptured Pyosalpinx.* A few years ago a man telephoned me that his sister in Kansas City, Mo., had taken suddenly sick in the middle of the night and they had called a physician who had pronounced it a case of acute appendicitis. She was brought to the hospital immediately. She was single and I thought I knew her so well I did not enquire if she had ever been married and I did not make a vaginal examination. She had

pain, tenderness and hyperesthesia in the right lower quadrant, vomiting, fever and leucocytosis. A right rectus incision was made and a slightly injected appendix was removed but a quantity of sero-purulent fluid welled up from the right pelvis. A pelvic drain was inserted and she temporarily recovered. A more careful history was taken and I learned that she had had a child that did not live, was divorced and at that time was living regularly with a traveling man. Later I removed her infected tubes and she has been well since.

*Strangulated Hernia.* Only recently I was hurried to the hospital by my interne to see a man with senile dementia to relieve him of acute abdominal pains and vomiting. The interne had made a careful blood count which was normal. Had he examined his belly instead he would have noticed a tender swelling in the left inguinal region which when easily reduced by taxis immediately relieved all symptoms. In diagnosis the sins of omission far outweigh the sins of commission.

*Meckel's Diverticulum.* Recently I operated upon a boy for acute appendicitis. He had all of the typical symptoms and findings but instead I found a gangrenous Meckel's diverticulum. This condition occurs most frequently under ten years of age in boys and is almost always diagnosed appendicitis. If a history of melena and hematemesis is obtained it will point to a Meckel's diverticulum. Bloody stools and bloody vomit in children occur most frequently in peptic ulcers and next most frequent in Meckel's diverticulum.

*Perforation of Peptic Ulcers.* When one has seen a few of these cases he will always be on his guard. I saw my first case many years ago. This man was seized with violent abdominal pains while in a drug store and was gotten home, only a block away, with the greatest difficulty. His suffering was so severe that he could not be touched and although I learned later that he had a typical ulcer history his suffering was so severe that it was impossible to obtain any history. A half grain of morphine hypodermically gave no relief. More was given later



with the same effect. An older physician was called in consultation who advised more morphine but he made no diagnosis. Twenty-four hours later Doctor Gray was called in consultation and diagnosed a perforated ulcer and sent him to the hospital and operation disclosed a perforated ulcer on the anterior surface of the duodenum but, it was too late, he died. This case should have been diagnosed had we obtained the history of pain coming two or three hours after eating and relieved by food and by soda and without the history we should have known that a serious abdominal crises had befallen him which needed immediate surgical attention. Only last Sunday at 4:00 a. m., I saw a man with the same intense symptoms, and I can assure you, he was in the hospital in less than ninety minutes.

An interne at St. Margaret's Hospital was seized in the evening with terrific abdominal pains and vomiting. There was no history of indigestion or food hunger and to this day he maintains that he never did suffer from such. Exploratory operation was made that night and a perforated ulcer of the duodenum was closed by a purse string suture and the omentum tacked over this, an uneventful convalescence followed and he has never had any symptoms since.

*Extra Abdominal Lesions.* We have had several cases sent to the hospital for immediate operation for acute appendicitis which revealed a basal pneumonia instead. In these cases the respiration is usually increased, the pulse-respiration ratio is diminished, the breathing is thoracic, the temperature usually is high and the leukocyte count greatly increased.

I have only lightly touched the differential diagnosis of a few of the more common acute abdominal conditions and there are many other conditions which I have not mentioned such as spinal disease with pain referred along the psoas muscles, perforation of typhoid ulcers, hip joint disease, tuberculosis of the ileocecal glands, carcinoma of the ileum, acute intestinal obstruction, mechanical or paralytic, diverticulitis, etc. To discuss these at one session would take too long and completely tire you out.

Summary: In cases of acute abdomen—

1st Take a careful and rapid history as to

(a) the past history

(b) the condition which immediately led up to the attack

(c) the symptoms in the order of sequence.

2d Make a careful physical examination:

(a) observe if rigidity is present and if so the location where it is most marked

(b) observe if there is tympanites or fluid

(c) test for hyperesthesia

(d) look for peristaltic waves which at times can be seen in cases of obstruction

(e) examine the canals for strangulated or incarcerated hernia. Femoral and epigastrium are most frequently missed

(f) in women vaginal examination frequently clears the problem

(g) palpate for tumors

(h) rectal examination in children and at times in adults is very valuable

3d Make an honest, sincere attempt to correlate the symptoms and findings. Most cases can be diagnosed.

4th Very rarely a diagnosis is impossible and an exploratory incision is advisable.

In conclusion I wish to state that much of this material has been obtained from Cope, The Early Diagnosis of the Acute Abdomen, Moynihan, Essays on Surgical Subjects, The Collected Papers of the Mayo Clinics and other authors.

—R—

### Acute Encephalitis—Report of an Unusual Case

F. I. WILSON, M.D.

Department of Surgery

During recent epidemics of influenza, encephalitis has been diagnosed as a frequent complication. As we look back over these cases, we now believe that some of them were wrongly diagnosed, the very early symptoms of encephalitis being mistaken for those of influenza.

This case is of particular interest because the patient's symptoms were so atypical. These symptoms were mild and

of short duration. The patient worked until three days before death, and during these three days he was in bed only a part of the time. A few hours before death he sat at the dinner table and enjoyed his meal.

*Case History.* The patient was a salesman, 38 years of age. He was seen first three days prior to his death complaining of blurring vision, chilly sensations and pain in the left forearm. He had been well until one week before, when he had had an attack of vomiting and diarrhea lasting about one hour. He attributed this to some salad he had eaten, although other people who had eaten it were not similarly affected. For five days following this he had headache, chilly sensations and weakness which

late. There was nothing to suggest the usual influenza.

*Physical Examination.* A thorough examination revealed only three positive findings, namely: a positive Rhomberg, double vision and a slight elevation in temperature, which was never more than 101 degrees F. Urine and blood examinations were negative. He died suddenly and unexpectedly during the night, three days after I first saw him.

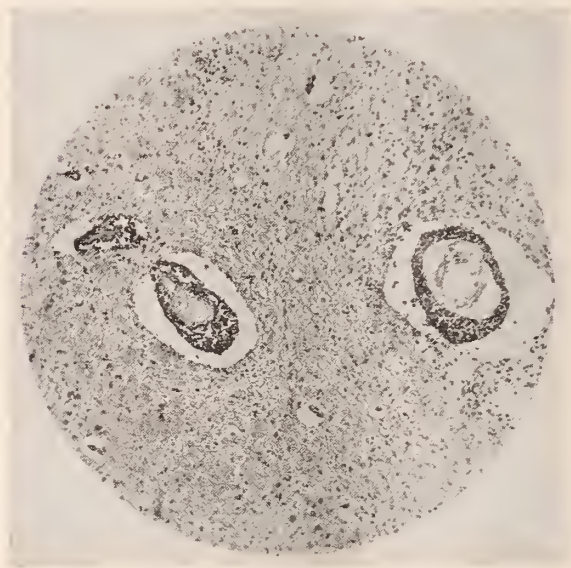
*Necropsy.\** The autopsy examination was negative except for an acute hyperplastic splenitis and changes in the brain. The brain was congested and there were a few pin-point hemorrhages in the white matter of the cortex, which would not have attracted any attention had not the remainder of the examination failed to reveal anything even suggestive, as to the cause of death.

Sections for microscopic examination were taken from many regions in the brain, including the cortex, white matter, cord, medulla, pons, Gasserian ganglion and the substantia nigra. These were fixed in Zenkers fluid and stained with the routine Hematoxylin and Eosin stains, as well as specific stains for inclusion bodies.

Histological examination showed no obvious pathologic alteration except in the substantia nigra and the Gasserian ganglion. The latter showed no definite inclusion bodies, but distinct granular changes were encountered in the cytoplasm of the ganglion cells.

The most striking picture, however, was seen in the substantia nigra as can be seen in the photomicrographs. Here the most intense perivascular round cell and plasma cell infiltration was seen. These cells formed a wide and prominent collar about each vessel. This infiltration was not confined to the perivascular space alone, but a low grade mononuclear infiltration was present in the surrounding brain substance, with considerable breaking up of the stroma and disintegration of the white matter. The latter was not particularly outstanding.

These changes in the substantia nigra are pathognomic of encephalitis. The gross changes were not in any manner diagnostic. The large spleen merely sug-



NO. 1

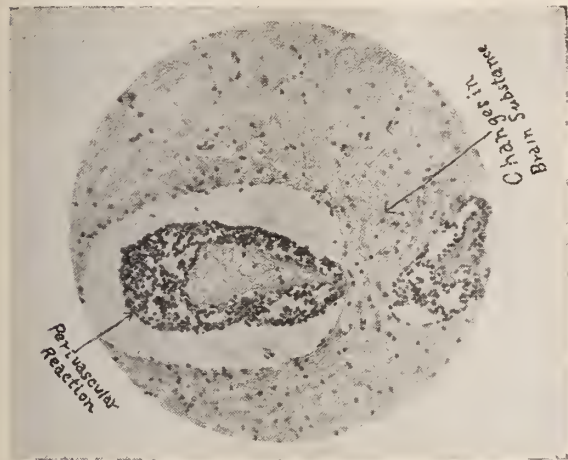
A microscopic section through the substantia nigra of the brain, showing marked perivascular infiltration and a low grade mononuclear infiltration of the brain substance. (Magnification X 125).

would come on about four-thirty each evening. He continued to work, however. Three days before I saw him, his headaches disappeared but he seemed to be more restless and he could not sleep well. The day I first saw him he began to have blurring of vision, dizziness and pain in the left arm, in addition to his other symptoms. Eighteen hours prior to his death these latter symptoms disappeared. His past history was negative, except that he had been despondent



gested an acute process. The diagnosis depended solely for confirmation upon the changes seen in a very small area in the brain.

**Diagnosis.** A probable diagnosis of encephalitis was made from the three positive clinical findings previously mentioned, although the history of influenza, as well as some of the typical symptoms



NO. 2

The same section as above with higher magnification.  
Mag. X 275).

of encephalitis, namely: delirium, coma, Chene-Stokes respiration and high fever were absent. The diagnosis of poisoning could not be ruled out because of his sudden death and a history of despondency. In addition to this, domestic troubles suggested to certain members of his family, the possibility of poisoning.

#### CONCLUSIONS

1—This is a proved case of acute encephalitis, not complicating influenza.

2—Only three positive findings were present, namely: a positive Rhomberg, double vision and fever.

3—The possibility of intestinal origin can not be denied.

4—The diagnosis could only be proved conclusively by the microscopic findings in a limited area of the brain.

\*I am grateful to F. C. Helwig, M.D., for the pathological report.

#### —R— "Council Passed"

The value of mineral oil as a lubricant and emollient for the treatment of certain forms of obstipation has been well established. In many cases, however, there is added to the need for lubrication the indication for the use of a mild laxa-

tive and antacid for which purpose years of clinical use have demonstrated milk of magnesia to be ideal.

Practically, there exists in many cases of intestinal stasis and constipation a hyperacid condition which calls for the use of an antacid.

Magnesia-Mineral Oil (25) Haley has therefore a therapeutic field considerably broader and more diversified than is the case with either one of its ingredients considered singly.

The makers of this product, were prompt to realize this but were also well aware that skepticism or doubt is apt to be aroused when the number of indications for the product is large.

As evidence of good faith and entirely in the interests of the medical profession, numerous questionnaires have been sent out from time to time, giving the physician an opportunity to indicate exactly under what conditions his use of magnesia-mineral oil (25) Haley proved most satisfactory. Response to these questionnaires has been prompt and numerous.

Tabulations have been carefully made of the replies received from physicians and only those indications mentioned in the literature which proved to have been common to a large number of doctors. In this way it is believed, undue claims have been avoided and the doctors have been given reliable information based upon actual clinical use. This product has been passed by the council.

#### —R— Hemochromatosis—Report of a Case With Post-Mortem Findings

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and

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Hemochromatosis was first described by Von Recklinghausen in 1889, who felt that the etiologic factor was the excessive destruction of red blood cells causing deposition of iron pigment in the tissues involved. Although it is a comparatively rare disease, much work has been done all over the world in the attempt of finding the cause. Many clever experiments have been carried out with

resulting theories; but none as yet have been satisfactory. Quite a number of authorities are of the opinion that there is some toxic agent present which not only injures the red blood cells, but at the same time damages the cells of the parenchymatous organs. It is definitely known though that there is an abnormal retention of iron in hemochromatosis; and for this reason more circulating iron is present than in normal conditions; so that it is not at all illogical to expect a greater accumulation of this iron pigment in the injured cells.

This condition is a chronic disease of middle age, occurring practically always in males. Of the hundred or so cases reported in the literature, only a few occurred in women.

At the University of Kansas, in 1435 autopsies, only three were cases of hemochromatosis. Mills in his series of seventeen cases of hemochromatosis at the Boston City Hospital found it diagnosed ante-mortem in only two cases. Yet with an ever increasing knowledge and greater ability for better diagnosis we venture the opinion that more cases will be put on record and we shall probably find that after all it is not such a rare disease.

Clinically it presents a combination of pigmentation of the skin, cirrhosis of the liver with splenic enlargement and diabetes. On account of this diabetic relationship with the peculiar pigmentation of the skin, Hanot and Chauffard first called it "bronze diabetes." Today we know that diabetes is usually a late symptom in the disease and at times may be entirely absent, there being instances when pigmentation of the skin and liver cirrhosis only are present.

The symptomatology is not constant. At times there may be little or no complaint outside of malaise. Quite often manifestations of indigestion are present, this symptom probably due to the frequent alcoholic history; but, gradually, as the disease progresses the symptoms too, take on greater range and variety. When diabetes sets in, symptoms of loss of weight, increased appetite and thirst, and polyuria take the center of the stage. The pigmentation of the skin, which

may or may not be evident, is of course only a manifestation of what is going on in most of the tissues of the body, especially in the liver, spleen and pancreas. It is due to a deposit of hemofuchsin and hemosiderin, the latter containing iron pigment. The change in color is first noted in normally pigmented areas of the body, namely, the uncovered areas, folds of the axilla and in areas around the scrotum. Gradually the color becomes marked and varies from the bronze or dirty-brown to the bluish black "Mummy" color.

Mills feels that there are present two distinct forms of pigmentation, one hematogenous (hemosiderin deposition), appearing as a dull gray-brown or dirty-brown color of the skin, and the other, the bluish leaden-black color due to increase of melanin in the skin and tissues where it normally occurs. This latter condition is probably due to greater involvement of the adrenal glands.

The physical findings are the enlarged liver with an associated tenderness, a palpable spleen, the peculiar pigmentation of the skin, the finding of hemosiderin crystals in the urine as described by Rous and the laboratory findings of an associated diabetes.

The treatment of this disease primarily means treating the diabetes. Too, much can be accomplished in alleviating various symptoms of hepatic insufficiency and hepatic circulatory disturbances. The disease is fatal and, after glycosuria sets in, the average time of life is about a year.

*Report of a Case With Post-Mortem Findings.* J. C., age 60, white, entered the hospital complaining of weakness, drowsiness, "tired feeling", and pain in the abdomen. Symptoms all began six months previously with an enormous appetite and inordinate thirst and since then gradually became weaker with marked loss of weight. A week ago had to take to his bed on account of a stuporous, drowsy feeling. He had lost 60 pounds in the last few months.

His past history is negative.

Family history negative as to familial tendencies.



The physical findings reveal an emaciated male with dry skin in a stuporous condition. The pupils are unequal and dilated. There is a brown serous discharge from both ears. The tongue and mouth are dry. Heart and lungs are negative. The abdomen was negative, no enlargement of liver or spleen noted. Reflexes were sluggish. The patient gradually became comatose and died one week later. Insulin therapy not of any avail. Laboratory findings show blood sugar 392 mgs. per 100 c.c. Urea 16 mgs. per 100 c.c. The blood Wassermann is negative. The urine on two occasions showed two per cent sugar, specific gravity 1038. Blood count—hemoglobin 70 per cent, 3,900,000 red blood cells and 14,600 white blood cells with a polymorphonuclear leukocyte count of 82 per cent.

The spinal fluid showed a cell count of 51 and a positive Pandy. The diagnosis was diabetes mellitus and probably brain abscess.

*Department of Pathology—Report Made by Dr. H. R. Wahl*

Patient, Mr. J. C.:

Clinical Diagnosis; Diabetes Mellitus and Brain Abscess.

Main Gross Findings: Well nourished. Peritoneal cavity contained about two liters of straw-colored fluid. Thoracic cavity negative. Heart shows some milk patches on the surface. A few small delicate vegetations were seen on the mitral valve. Lung shows some congestion. The liver showed an underweight (1585 grams), having an unusually deep rusty brown color and had an unusually nodular firm consistency and nodular surface. It cut with a great deal of resistance. It had a typical hob-nail appearance. The gall-bladder was moderately distended and contained some dark viscid bile. The biliary passages were open. The spleen weighs 390 grams. It is considerably enlarged and has a large white firm area on the outer surface showing enormous thickening of the capsule, the capsule at this point measuring 4 mm. in thickness over an area 9 by 13 cm. In some places this opaque white patch on the surface seemed to be almost calcified. There is a great deal of diffuse fibrosis throughout the organ. The pan-

creas weighed 62 grams and measured 15 by 4 by 2½ cm. It was shrunken and unusually hard in consistency. The lobulation was very distinct; it showed no increase in fat tissue.

The kidneys weighed 175 grams on one side and 190 grams on the other. They were rather pink in color and firm in consistency. The right measured 12 by 7 by 3½ cm. and the left 12½ by 7½ by 3½ cm. The capsule strips off readily and there is nothing grossly abnormal noted. The glomeruli are not distinct. The ureters show nothing abnormal.

The bladder seemed to be somewhat distended.

The prostate showed nothing abnormal.

The adrenal glands seemed to be normal.

The esophagus showed enlarged varices, particularly on the posterior surface where there seemed to be a cluster of varicose veins. The mucosa of the stomach seemed to be unusually thickened and somewhat edematous. It also was markedly bile stained or had a rusty color. It seemed to be greatly congested. The rugae of the duodenum were distinct. It shows otherwise nothing unusual. The small intestines were moderately distended and seemed to be somewhat pigmented. A typical Meckel's diverticulum was noted 1½ feet from the ileo-cecal valve. It measures 1½ cm. in length by 1 cm. in width. The appendix was bound down by a few adhesions.

The aorta was 33 cm. in length by 3 cm. in width. Above the bifurcation there were several plaques 1 cm. in diameter, smaller ones were scattered throughout. No atypical varices were seen on the diaphragm.

An examination of the brain: The meninges seemed to be somewhat thickened and more opaque over the frontal and parietal lobes. No definite exudate was noted. The dura, there is a viscid substance somewhat resembling pus. Smears were taken from the exudate over the surface of the meninges which showed numerous streptococci, showing rods and diplococci. A few polynuclear leukocytes were also present.

The liver showed considerable fatty changes in addition to the cirrhosis. There was a purulent laryngitis present following the middle ear infection. The body had been embalmed and for that reason cultures could not be made.

*Histological Pathology.* The pericardium is not particularly thickened. The myocardium shows many large muscle fibers some of which show considerable fragmentation and segmentation. There is a slight diffuse increase in interstitial fibrous tissue. Occasional leukocytes may be seen here and there. An unusual amount of fine light brown pigment may be seen around the nuclei. Much of this pigment around the nuclei in the muscle fibers stains blue with a pearl tint showing that it is iron containing pigment. Many of the muscle fibers show vacuolization and other signs of disintegration and degeneration.

Some of the sections through the lungs show considerable leukocytic infiltration in many of the alveoli. Irregular bands of fibrous tissue are running through it and seem to separate the lung tissue into coarse lobules. Some of the alveoli are empty. The pictures suggest that of a broncho-pneumonia. In other areas the alveoli contain nothing but masses of red blood cells and in still others a considerable amount of serum. Some foci show considerable emphysema and marked engorgement of the capillaries in the walls of the alveoli. Some of the hemorrhagic areas show rather indefinite staining of the lung framework suggesting infarction. No iron pigment was seen in the lung framework.

Section through the aorta shows some irregular deposits of calcium salts in the media. The muscle fibers and elastic tina is more or less broken down. In fibers are considerably degenerated. The boundary line between the media and in some places the intima seems to be more or less broken down and thickened. Towards the surface some accumulation of cells consisting mostly of polynuclear and mononuclear leukocytes are seen. The pearl test shows that there are new blood pigment granules in the intima.

The capsule of the liver is very markedly thickened. It is infiltrated

with large irregular masses of brown pigment granules most of which are present in large swollen, elongated connective tissue cells. In some places these pigment masses are free in the interstitial spaces. There is a marked increase in fibrous tissue around the portal spaces, in fact so marked that they are often islands of liver tissue surrounded by heavy bands of fibrous tissue. This fibrous tissue is characterized by the large amounts of coarse, heavy brown pigment granules that are present throughout, the pigment granules being present mostly in liver tissue spaces; though some of them may be seen in connective tissue cells. There is some proliferation of the bile ducts. The liver cells themselves are somewhat broken down. The brown pigment granules may be seen in a finer form in the cells of the liver. Diffuse fibrosis seems to extend right into the lobule of the liver. The endothelial cells of the sinusoids are distinctly swollen. Some of the liver cells contain numerous fat or other vacuolar spaces. There is some inflammatory reaction especially in the portal areas. The pearl test shows most all of the pigment, particularly that pigment which is present in the fibrous tissue masses, is iron containing pigment and takes a deep blue stain.

The lobulation of the pancreas is unusually distinct. There is considerable fat tissue infiltration. There is a marked increase in fibrous tissue among the acini breaking down in some places. This fibrous tissue is peculiar in that it shows considerable infiltration with coarse heavy brown pigment granules similar to the fibrous tissue masses in the liver. The pigment is deposited not only in the elongated pigmented cells in the stroma but also in the form of fine pigment granules in many of the acinar cells. The islands are often surrounded by pigment and the pigment granules are also deposited in some of the cells of the islands. The pearl test shows that this pigment is practically all iron containing pigment.

The capsule of the spleen is enormously thickened and shows a dense hyaline fibrous tissue, some of which has



undergone hyaline degeneration. On the outer surface of this hyaline mass there is considerable accumulation of mononuclear leukocytes mostly of an endothelial type or of the large mononuclear form. The trabeculae are not so very prominent. The Malpighian bodies are atrophied and do not stand out very prominent. There is considerable cellular hyperplasia throughout the splenic pulp and abundant deposition of brown pigment granules. This pigment, however, is not nearly as abundant as it is in the liver and the pancreas.

Section of the kidney shows some swelling of the cortex. The convoluted

lilation. There is considerable congestion both in the interstitial tissue and in the medulla. The pearl test shows in a striking way that the pigment is limited to the loops of Henle, particularly the ascending lobe, and is iron containing.

In the cortex of the adrenal gland there is considerable degeneration of the cells. Towards the surface most of the cortical cells are filled with brown pigment granules. Another mass of brown pigment granules, somewhat lighter in character and more diffuse in staining, is seen in those cells of the cortex adjacent to the medulla; otherwise nothing abnormal is noted.

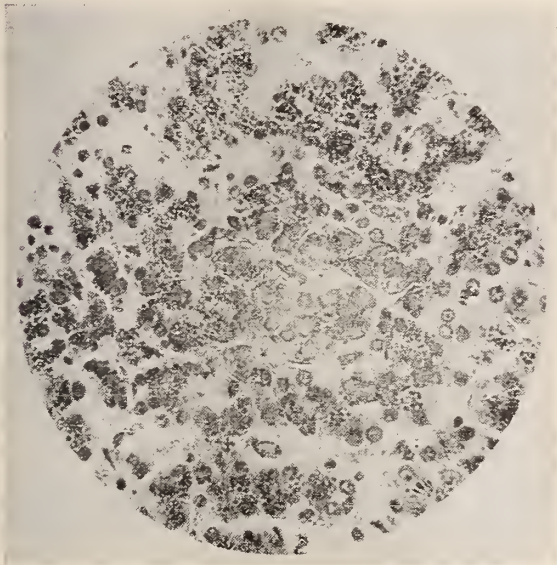
A section through the prostate shows considerable desquamation of the cells; otherwise nothing abnormal.

Section through the colon shows considerable desquamation of the surface epithelium. Some pigment seems to be present in some of the cells. In the small intestine an increase in fibrous tissue in the mucosa. The same thing is true of the appendix. No iron containing pigment was seen in the intestine.

A section taken through the lymph gland in the hilum of the liver in the neighborhood of the cystic duct shows much fibrosis and considerable endothelial cell hyperplasia and very marked accumulation of brown pigment which is present in large swollen endothelial cells, more abundant around the cortex of the gland than in the center. The pigment is present in the form of fine granules within many large swollen desquamated endothelial cells in the sinusoids.

A section of the meninges shows considerable infiltration of lymphoid cells just underneath the pia, particularly in the sulci.

Anatomical diagnosis: Hemochromatosis with extensive deposition of hemosiderin in the liver, kidney, pancreas, lymph glands and adrenal gland; atrophic cirrhosis; chronic interstitial pancreatitis; broncho-pneumonia; chronic sclerotic perisplenitis; hydroperitoneum; chronic pericarditis; chronic myocarditis; fragmentation and segmentation of the myocardium; acute vegetative endocarditis of the mitral valve; tubular nephroses; esophageal varices; chronic



(Courtesy Pathology Department, University of Kansas)  
Liver section magnification 500 note pigmented granules, hemosiderin.

tubular epithelium shows well marked cloudy swelling and in some places more advanced degenerative change. There is slight diffuse increase in fibrous tissue. The cells of the collecting tubules and also of the loops of Henle are peculiar in that they show considerable deposits of brown pigment granules. Irregular patches of fibrous tissue may be noted here and there, particularly around some of the glomeruli. The glomeruli of the cells are more or less swollen. They are considerably engorged, red cells being abundant in the tufts. In some places the endothelial cells are swollen. A few leukocytes may be seen in the glomeruli. The tufts often show a tendency to lobu-

hyperplastic gastritis; Meckel's diverticulum; early anterior-sclerosis; slight acute meningitis; otitis media.

#### DISCUSSION

The interesting phase of this case is that no pigmentation of the skin was noted and therefore one of the main diagnostic features being absent the true condition of the disease present was entirely missed. The symptoms were those of diabetes mellitus with some inflammatory brain lesion present.

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#### R

### Primary Carcinoma of Lung

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Primary carcinoma of the lung is a disease entity which confronts the general practitioner, the internist, the otorhinolaryngologist, the surgeon, the roentgenologist and the pathologist.

The great bulk of literature available on the subject with reports of cases indicates rather conclusively that its incidence is on the increase. That the increase is due not only to the existence of better and more modern aids in diagnosis is indicated by the increase noted in the statistics on necropsy material obtained in this and other countries. It cannot be denied that increase in attention to the disease has augmented the number of cases of it recognized.

The diagnosis of this condition should be made with caution in the absence of complete necropsy observation of cases. This is largely due to the fact that carcinoma in other parts of the body often metastasizes to the lungs and simulates a

primary growth in the lungs. The assistance rendered by even the most competent pathologist on material obtained at biopsy in suspected cases should be considered as confirmatory and not as conclusive diagnostic evidence.

Primary carcinoma of the lung was vaguely described by Boyle in 1810. Many case reports and statistics have been compiled since but the most complete series is that of Brunn<sup>1</sup> who in May 1925 was able to collect 626 cases.

Brunn showed that 0.04 per cent of collected autopsies between 1872 and 1892 were primary carcinomata of the lung. Between 1898 and 1916, .24 per cent and between 1916 and 1924, .21 per cent of autopsies were primary carcinomata of the lung. Ewing<sup>2</sup> believes that primary carcinoma of the lung comprises 1 per cent of all carcinomata.

This condition occurs three times more frequently in males than in females. Ninety per cent of the cases occur between the ages of 40 and 80 years. Sixty per cent occur between the ages of 40 and 60 years.

The location of these carcinomata in 103 cases cited by Ravdin<sup>3</sup> show 54 per cent of lesions on the right, 35 per cent on the left and bilaterally in 10 per cent of the cases.

Histogenetically primary carcinomata are divided into three groups, namely those arising from

1. Bronchial epithelium
2. Bronchial glands (mucous)
3. Alveolar epithelium

McCrae<sup>4</sup>, Funk and Jackson state that perhaps 10 to 15 per cent of all primary tumors of the lung arise in the alveolar epithelium and that the great majority originate in the bronchi and subsequently invade the lung tissue. Weller<sup>5</sup> considers that the ratio in pulmonary carcinoma must be as high as ten of bronchogenic origin to one of other origin.

Ewing states that tuberculosis is the chief etiological factor. Many alterations in the bronchial epithelium and alveolar epithelium are found in old sclerosis, atelectases and reparative processes, considerable cellular overgrowth often being present. In long existing chronic bronchitis overgrowth of bronchial epi-



thelium is often seen. Likewise overgrowth and metaplasia of the alveolar epithelium is seen in chronic interstitial pneumonia suggesting this as a possible etiological factor. Trauma, anthracosis and irritation from irritating gases are other prominent and supposed causative factors. Experimental evidence has shed very little light on the etiology of these carcinomata. Certainly inherent predisposition to these lesions must always be kept in mind.

#### CASE REPORTS

Case I. C. H. W. Aged 46, by occupation a conductor, was admitted into hospital complaining of pain in right chest and choking on eating and coughing.

Present illness began one and one-half years ago following an attack of influenza when he noted increasing respiratory difficulty and choking spells on eating and following excitement.

Physical examination showed a middle aged man of normal nutrition with poor dental hygiene. B. P. 150/85. Wass. 4 plus. *x*-Ray revealed a circumscribed mass in the upper mediastinum which projected to the right of the median line at the level of the aortic arch. The impression was aortic aneurysm.

Three months later he was readmitted complaining of dyspnea, swelling of the face, neck and abdomen—and pain in right side of chest. The pain at this time radiated to the right shoulder and the right side of neck and face. The swelling had been present eight weeks, the onset following exertion. Physical examination showed, B. P. 120/74, edema of face and neck and a rapid respiration. Varicose veins were noted over the entire chest. Tenderness was noted between right nipple and sternum.

He was again admitted three months later with dyspnea, hiccough and generalized puffiness. He had to sit up in bed with head bent forward to breathe. On physical examination the neck, face and upper extremities were edematous and pitted on pressure. Superficial varicosities were noted over the entire chest wall. The heart was enlarged and its rate irregular. Varicose veins leading to the epigastrium from over the chest were

noted. Dullness was noted over the base of both lungs. The liver was enlarged and tender. The lower extremities were not edematous.

Death occurred one week after this admission. The post mortem examination revealed the following findings; marked edema of the upper extremities associated with considerable edema of upper chest and neck. The lower extremities were not edematous. The veins of the abdomen were dilated and congested.

The right pleural cavity contained about 1400 c.c. of straw colored fluid and 300 c.c. were noted on the left. In the upper part of the right chest and close to mediastinum there was a large firm mass which measured about 13 cms in diameter and on cut section was grayish and cellular in appearance. This mass surrounded the ascending arch of aorta and vena cava. The latter was invaded and its lumen entirely occluded by the tumor tissue. Distal to the occlusion by the tumor mass the veins were thrombosed. The mass extends posteriorly behind the trachea which is somewhat flattened anteroposteriorly. There was no erosion into the trachea or bronchi. The esophagus was dilated above the site of the tumor. There was a large irregularly outlined abscess measuring 12 by 5 cms involving the upper lobe of the right lung and the posterior portion of the superior mediastinum. It contained a foul greenish yellow semi-fluid pus. The hilus lymph glands were involved in the tumor mass on the right. The left azygos major vessels were widely dilated. The liver was enlarged and had the usual nutmeg appearance of chronic passive congestion. There was an acute splenic tumor. There was considerable coronary sclerosis. The kidneys were enlarged.

Final diagnosis—Primary carcinoma of lung (right); occlusion of the superior vena cava with extensive collateral circulation; abscesses of the right lung and superior mediastinum; bronchial pneumonia; acute sero-fibrinous pleurisy; bilateral edema of upper extremities; coronary sclerosis; acute and chronic myocarditis; parenchymatous degeneration of liver and kidneys.

Case II. A. T. (colored) aged 44 years, by occupation truck driver, was sent to hospital by Dr. Sam Snider with a diagnosis of bronchogenic carcinoma. He complained of pain in chest and abdomen, shortness of breath, loss of appetite and weight and "lumps" on his left shoulder and in his right groin.

The present illness began 6 weeks ago at which time he had lancinating pain on exertion beginning in the left axilla and radiating to the left costal margin in the nipple line, associated with dyspnea and relieved by rest. Pain also came on in the night and was relieved by lying on the left side. He was forced to stop work two weeks after onset. The last two weeks the chest pains have disappeared but pain persists in the abdomen especially the left lower quadrant. The dyspnea has gradually increased the last two weeks. Blood streaked sputum was raised two weeks prior to admission. A painless nodule over the left deltoid muscle had been present for one month. He had lost 40 pounds of weight in the last 3 months.

Physical examination on admission showed a well developed, poorly nourished colored male, presenting irregular pupils, marked oral sepsis, anemic mucous membranes and cervical adenopathy. The chest expansion was diminished, most markedly on the left side. The right chest was hyper-resonant, tactile fremitus was increased on the right and decreased on the left. The left chest was dull on percussion anteriorly and posteriorly. Vocal fremitus was increased over the left chest. Extra systoles were present and the blood pressure was 110/65. The abdomen was distended, rigid and tender, most marked in the left lower quadrant. The spleen was palpable and fluctuating masses were present over the left deltoid muscle anteriorly and in the right groin.

Laboratory examination showed negative urine, R. B. C. 3,950,000, Hgb. 54 per cent, W. B. C. 22,000 with 71 per cent polys on admission. Pathological examination of biopsy specimen of mass removed from left deltoid region showed "adenocarcinoma metastatic."

Roentgenological examination of chest

showed two rounded masses projecting into the right chest from the mediastinum. There was hazy infiltration at the left extending into the parenchyma.

The temperature varied between 98° and 102° during stay in hospital with some elevation of pulse rate and respiration. The course was that of gradually increasing weakness until death.

Necropsy—4/26/28. Body was that of an emaciated colored man about 50 years of age. A post operative scar was seen over the left deltoid muscle and there was a large nodule about 10 cm in diameter over the crest of the right ilium. The inguinal lymph glands were markedly enlarged.

The abdominal cavity contained about 200 c.c. of straw colored fluid. The liver extended below the costal margin.

The left lung was collapsed, the cavity containing approximately 300 c.c. of straw colored semi-coagulated fluid. There was a fibrinous exudate over the surface of the lung. About 1 cm from the bifurcation of the trachea in the right bronchus there was a tumor nodule measuring 1 cm in diameter which involved the bronchial epithelium. This connected with a mass 20 cm in diameter in the upper lobe of the right lung which was fairly well circumscribed and on cut section was grayish and cellular in appearance. Numerous small nodules were seen in the lung substance, one being closely associated with a healed tubercular nodule at apex of the right lung. The mediastinal lymph glands were enlarged. Metastases were noted in the inguinal lymph glands, over the crest of the right ilium, in the adrenals and kidneys. Direct extension into the bodies of the sixth and seventh dorsal vertebrae were noted.

Final Diagnosis—Primary carcinoma of lung (bronchogenic) with metastases to lymph nodes, adrenal gland, kidney, crest of the ilium and extension into bodies of the sixth and seventh dorsal vertebrae—Parenchymatous degeneration of the heart, liver and kidneys.

Case III. F. R. (white) 68 years, a salesman by occupation, was admitted to hospital complaining of pain in the upper left abdominal quadrant which



was said to follow a chest injury. It was characterized by intermittent sharp stabbing pains in the upper left abdominal quadrant radiating to the inguinal region on the left and exaggerated by moving the body. Vague stomach symptoms were present and there was a loss of 50 lbs. in weight in the last year.

Physical examination showed a well developed and fairly well nourished elderly white male. There was limitation of chest expansion on the left side with tenderness over the seventh, eighth, ninth and tenth ribs. Auscultation and percussion were negative. The blood pressure was 100/75. The remainder of the physical examination was essentially negative.

Roentgenological findings suggested probable malignancy of the stomach. Exploratory laparotomy revealed metastatic nodules in the liver which on pathological examination showed an undifferentiated medullary carcinoma (the picture resembling a sarcoma). The patient did not survive the operation.

Necropsy 2/9/26. The body was that of an elderly white male of normal skeletal and muscular development. There was a left rectus incision 10 cm in length in which there was a drain.

The peritoneal cavity was negative except the liver was studded with irregular elevated pale granular nodules varying from 3 to 15 mm in diameter and having on section a pink cellular appearance.

The right lung showed dense fibrous adhesions over the upper lobe. They were crepitant throughout except at the hilus of the left lung where there was a hard fibrotic indurated area about 4 cm in diameter which on cut section appears as a firm white cellular area surrounding the bronchus. The hilum lymph nodes on the left were enlarged.

The coronary vessels showed some sclerosis. The liver presented many metastatic nodules 3 to 15 mm in diameter, one having been removed at biopsy. A rubber tube was sutured into the gall bladder and several small stones were noted in the gall bladder. The kidneys presented numerous scattered white tumor metastases. The adrenals con-

tained small pink well circumscribed cellular nodules resembling metastases. The capsule of the spleen was thickened and glistening.

Final diagnosis—Primary carcinoma of the bronchial epithelium (medullary); metastases to the adrenals, liver and kidney, interstitial pulmonary fibrosis with secondary infection and catarrhal pneumonia; cholecystotomy with chronic cholecystitis and cholelithiasis; partial obstruction of the cystic duct and parenchymatous degeneration of the heart and liver.

#### DISCUSSION

Factors involved in reaching an opinion as to the site of origin of all primary lung carcinomas are—

1. Position of the growth in the lung
2. Behavior of the growth with respect to various structures of the lung and
3. The cell types and manifestations including the products of the cells such as mucin.

From the standpoint of gross pathology three types of primary carcinoma of the lung must be considered, namely, a type associated with the hilum, a nodular type in the parenchyma and a diffuse type.

In the type occurring in the hilum, which is by far the predominating type, the most common site of origin is at the first bifurcation of the main bronchus. The gross appearance as seen from the lumen of the bronchus may vary from a roughening of the mucosa to complete bronchial stenosis. Intra bronchial polypoid masses are occasionally seen. The growth on section is usually yellowish white in color except when associated with secondary infection where it shows necrosis and sometimes cavitation.

In the nodular type, which is much less common, metastases from a primary lesion outside the lung must always be considered, nevertheless convincing cases are reported in which small primary lesions are found in the bronchi and even elsewhere in the lung.

The diffuse type, which grossly resembles a late stage of croupous pneumonia may be either unilateral or bilateral. Microscopically the alveoli in

these cases are filled with papillary ingrowths of cuboidal or columnar epithelial cells. These cases are rare and even the most carefully observed cases are questionable as regards the site of origin.

Most of primary carcinomata of the lung arise from the bronchial epithelium and give a nodular often glandular growth. A few may arise from the alveolar epithelium when a more diffuse cellular type is obtained. Occasionally the tumor may arise from mucous glands at the larger bronchi giving a colloid or gelatinous type of growth.

On microscopical examination most carcinomas of the lung can be assigned as follows; undifferentiated cell carcinoma, squamous cell carcinoma resulting from metaplasia, and the cylindrical cell types often showing a tendency to glandular formation. Cases I and III presented here are of the undifferentiated type, case III histologically suggesting the so-called "Oat Cell Sarcoma of Barnard." Case II illustrates the cylindrical cell type with a tendency to glandular formation.

With gross and microscopical findings as aids it is impossible to separate into definite groups the more advanced cases especially the more malignant types. The cell types seen are more an indication of the degree of differentiation of the tumor than an indication of the site of origin, wide variations in the degree of differentiation of the component cells being noted in different areas of the same growth.

Regional extensions are important especially in the type associated with the hilus occurring along the perivascular lymphatics or in the lumina of the vessels themselves. Case I illustrates extension into, with occlusion of the superior vena cava resulting in a characteristic symptomatology and physical findings. Compression dilatation of the esophagus is also noted in this case. Symptoms attributed to referred pain due to nerve irritation are occasionally seen. Tumor masses are sometimes seen in the thoracic wall showing a direct continuity with the primary growth, and as shown in case II direct extension into

the thoracic vertebra occurs. Case I illustrates an apparent drop of 30 points in systolic blood pressure with increase in the size of the tumor mass.

Changes in the lung peripheral to the new growth are determined largely by the degree of obstruction. Emphysema is occasionally seen but atelectasis due to obstruction is more common. Bronchiectasis with chronic purulent bronchitis and a chronic pneumonitis are occasionally seen. Abscess formation as indicated in case I is often seen. Involvement of the pleura with pleural effusion is usually seen at death as is shown in cases I and II.

The metastasis in primary carcinoma of the lung are numerous and widespread and occur in approximately 90 per cent of cases seen at autopsy. The liver, skeleton, lungs, brain, kidneys and adrenals are the most frequent sites of metastases in the order named. Metastases were seen in skeletal muscle about the crest of the ilium and in the deltoid muscle in case II. Metastasis may be the cause of the initial symptoms of the disease and thus direct attention from the site of the primary growth as is shown in case III.

In patients presenting symptoms and signs of pulmonary disease or mediastinal disease occurring after the age of forty years primary carcinoma of the lung should be seriously considered in the differential diagnosis. Bronchoscopy should aid in the earlier diagnosis of this condition since the majority of these new growths are primary in the bronchus.

Examination by the pathologist of biopsy material obtained by bronchoscopy and surgical removal of metastatic glands offer confirmatory evidence in the diagnosis of primary pulmonary carcinomata during the life of the patient. Cytological examination of pleural fluid offers an aid in the intra-vitam diagnosis of the condition.

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### Treatment of Nephritis in Children

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The treatment of nephritis in children should be directed to the removal of the cause, where this can be done, and to taking of as much work as possible off the diseased kidney so that reparative processes will be established and normal function restored. In childhood, nephritis usually follows infection of the respiratory tract, tonsillitis being a frequent complaint in the history of nephritis patients, or occurs as a sequel of scarlet fever.

Too many people who write on this subject offer a new classification of the disease or a modification of some existing classification. Consequently, so much confusion has resulted that it is difficult to understand all of the terms when the subject is discussed. The essential thing to know when prescribing for a case of nephritis, is what part of the kidney is involved, or better, what part of the kidney is most involved, whether the damage is in the glomerular tufts, or below the glomeruli in the tubules or interstitial supporting tissues.

It is in the glomeruli that nitrogenous waste products are excreted, and if this function is interfered with certain symptoms will develop that must be recognized early. In the cells of the convoluted tubules certain salts are absorbed and water is excreted. Damage to these tubules results in the accumulation of water in the tissues of the body, and this condition requires different treatment than disease of the glomeruli.

At the onset, all cases of nephritis occurring in children are acute. A division of these cases into acute and chronic is not important, except for prognosis. Likewise the use of the word, parenchymatous, to designate a type of nephritis is illogical, because both the glomeruli and the tubules are parenchymatous tissues.

It is not always a simple matter to determine the nature of the kidney disease. It is very probable that a purely glomerular nephritis or a purely tubular

nephritis is present only during the early stage. Severe injury to the glomerulus will be followed by a disturbance in the dependent tubular epithelium, and if a tubule is destroyed the function of the glomerulus attached to it will surely be impaired. Finally, disease of glomeruli and tubules, the parenchymatous part of the organ, will likely be followed by proliferative and reparative processes in the interstitial tissue. And if the interstitial tissue is primarily affected, the adjacent parenchymatous structure will hardly escape.

However, it is logical to classify diseases of the kidney in children into these three types, as proposed by Davison and Salinger. Even though the pure types are seldom encountered, it serves as a rational basis for treatment. We can soon determine whether end products of protein metabolism are being retained with the possibility of uremia, or whether water and salt retention is our chief concern.

Hematuria and edema are the two symptoms that enable us to make the classification. (Table 1) If blood cells occur in the urine with or without edema, it means that the glomerular tufts are involved. The tubules and the interstitial tissue may be affected but hematuria to any extent means glomerular nephritis. If no red blood cells are present on repeated examinations, tubular or interstitial nephritis is present. The presence of edema indicates that the salt and water are being retained, and the condition is one of tubular nephritis.

The patient with nephritis in which both hematuria and edema are absent, has interstitial nephritis.

#### TREATMENT

In this paper we shall discuss only glomerular and tubular nephritis. The eradication of the etiological infectious process should always be accomplished as soon as the condition of the patient permits. If the patient is in fairly good condition the tonsils may be removed under a general anesthetic even if albumin is present in the urine. If there is edema, or if the urine output is scanty, the urea or non-protein nitrogen of the blood high, or if the salt solution disap-

pearance time indicates that there is impending edema, it may be best to postpone a tonsillectomy. Cases of tubular nephritis have been reported in which the infection comes from the nasal sinuses and these are drained as soon as they are discovered.

The protein in the diet is important only in the glomerular nephritis, and should not exceed 1.5 gm., per kilo body weight, per day. Salt should always be restricted although it is not always necessary to resort to a salt-free diet. Water may be given freely in glomerular nephritis where there is much blood, where the urine output is not diminished and no edema is present. If there is edema water must be restricted. The patient should be in bed and kept warm.

Purgation and hot packs should not be used routinely; they tax the patient's strength too much and probably should be limited to those cases showing signs of uremia. Digitalis, diuretin, calcium chloride, ammonium chloride and theocin should be tried where edema is present. They are safe, easy to administer and very often effective. The newer mercurial compounds, novasural and salyrgan are excellent diuretics but are contra-indicated in glomerular nephritis.

If there is evidence of cardiac failure, digitalis should be used. In dosage sufficient to produce the desired cardiac effect it will usually have a favorable effect on the edema. In those cases of edema that resist digitalis, ammonium chloride in doses of 1 gram a day to a child of five, will often prove effective. When ammonium chloride is absorbed, the ammonium is converted into urea by the liver, setting the chlorine ions free. The chlorine acting as an acid salt brings about a physical and chemical change in the water-logged tissues, causing them to give up their water and sodium chloride, with a resulting disappearance of edema. Fig. 1 represents a typical result in a patient with hematuria and edema.

Tubular nephritis is much less common than the glomerular type. It is this type, often referred to as nephrosis, that marked edema and even acites are found. These patients are as a rule not acutely ill and do not have uremia, but run a

chronic course with frequent exacerbations. Some evidence is at hand to show that they are caused by a staphylococcus infection of the sinuses, in contrast to the streptococcic origin of glomerular nephritis.

In the edema of tubular nephritis there is no evidence that a protein diet is harmful. On the contrary it is believed that such patients do better when they obtain their full amount of protein. It is very important that water and salt be restricted. In this type of nephritis novasural and salyrgan have given excellent results. I have used only salyrgan, alone and in conjunction with ammonium chloride and digitalis. Inasmuch as salyrgan is a salt of mercury, it should not be used in diarrhea, severe anemia, or during high temperature. It differs very little from novasural but is said to be less drastic. I have used it in  $\frac{1}{2}$  c.c. doses in children after digitalis and ammonium chloride had been tried without much effect. It may be given intramuscularly or intravenously and should not be used oftener than twice a week. Case 2 shows a typical result on the urine out-put, and weight, of a 12-year-old boy with pericarditis and cardiac dilatation, tubular nephritis and edema.

Table I  
Classification of Nephritis in Children

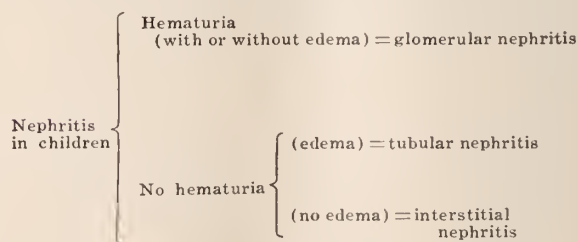


Fig. 1

Case I. J. W., aged 9 years, showing effect of ammonium chloride on weight curve and urine output.

Date	Wt. lbs.	Intake c.c.	Output	Medication		
Nov. 8	58	120	125			
9		120	175			
10		250	135			
11		365	120			
12		280	270	Ammon.	Chlor.	2 Gm.
13		400	650	"	"	"
14		750	1030	"	"	"
15		800	1400	"	"	"
16		600	1250	"	"	"
17		680	1490	"	"	"
18		590	1370	"	"	"
19		620	1280	"	"	"
20		600	1050			
21	50	600	700			



Fig. 2

R. T., aged 13 years, showing diuresis and weight loss in a nephritic with cardiac dilatation, pericarditis and anasarca, treated with digitalis and salyrgan.

Date	Wt. lbs.	Intake c.c.	Output c.c.	Medication
Feb. 1	79	390	700	Digitalis
2		240	420	"
3		470	430	"
4		480	1350	" ½ c.c. Salyrgan
5		480	1230	"
6		380	1020	"
7		230	1440	"
8	73	760	800	"
9		540	700	"
10		980	750	"
11		280	1590	" ½ c.c. Salyrgan
12		630	1100	"
13		300	780	"
14		400	960	"
15		260	1075	" ½ c.c. Salyrgan
16		610	1370	"
21	69			

R

### Internal Derangements of the Knee Joint

C. B. FRANCISCO, M.D.

Clinical Professor of Orthopaedic Surgery

Injury to the knee joint is a rather common occurrence in young adults. It is especially likely to occur in football and basket ball games and also in miners who work in low pits.

It would appear that the general practitioner is often at a loss to know how to manage the injury and has no particular plan of classifying the types of injury that may occur. This paper will be limited to the discussion of injuries to the joint proper and no mention will be made of loose bodies in the joint or fractures of the patella or of the bony structures forming the joint, such conditions being positively shown in the *x-ray* and come properly within the realm of the treatment of fractures.

Injuries to the structures of the knee joint, therefore, consist of tearing of the lateral ligaments, rupture of the crucial ligaments, one or both, and fracture or dislocation of the internal or external semilunar cartilages. The *x-ray* findings are, therefore, always negative, except that an increased amount of fluid in the joint may be indicated by the *x-ray*.

The history of the injury is always important. It will usually be elicited that the knee joint was twisted when in flexion and that the pain was severe at the time of injury. The patient has to be carried from the scene of the accident and has the feeling that something gave way in the joint or that the joint is out of place.

When the lateral ligaments have been torn, swelling occurs very rapidly due to the bleeding into the joint and the capsule becomes very tense. The joint can be easily moved at first but later the movement is markedly restricted due to the effusion in the joint. These cases should be immobilized at once, preferably by posterior splints and cold applications applied over the joint. If the capsule remains tense aspiration of the joint should be done in order to relieve the capsular tension and prevent thereby permanent stretching of the joint capsule. This is important as chronically weak knees result from allowing the joint to remain distended which causes the capsule to become relaxed and predispose the joint to recurrent sprains. The immobilization should be continued for only two or three weeks, passive motion should then be started, as sufficient healing will have taken place to allow motion and thereby prevent the formation of adhesions and contractions of the other joint structures. At the end of three or four weeks active movements should be started and urged so that full function is gained by the end of the sixth week. If this procedure is followed, practically no disability will result and there will be no tendency toward a recurrence of future joint sprains.

Rupture of the crucial ligaments give a different picture. Usually the patient feels something give way in the joint; the pain is severe, but not lasting and the sensation is one of inability to use the joint and that it is unstable. Examination will reveal only slight effusion with definite increased movement either forward or backward of the joint, depending on whether the anterior or posterior ligament has been ruptured. Seldom if ever are both of these ligaments ruptured at the same time and rarely is a ruptured crucial associated with a tearing of either lateral ligament. Frequently, however, a spine of the tibia is torn away at the time the crucial ligament is injured. These cases require immobilization in a plaster cast for some four or six weeks after which a brace with a locked joint should be worn over a period of six or eight months, and then

a knee cage is often required for an indefinite time on account of instability of the joint. Long immobilization results in tightening of the joint capsule and makes the joint more stable by limiting the range of motion. This type of injury produces a permanent disability of a considerable degree and is not amenable to surgery, as attempted surgical reconstruction of a crucial ligament is usually disappointing, and never completely relieves the disability.

Fracture or dislocation of the internal semilunar cartilage is the most fascinating type of knee joint injury. It gives a classical picture although often associated with a spraining or tearing of the lateral ligament, for the reason that the cartilage is attached to the respective lateral ligament. The injury occurs with the knee in flexion and inclined inward or outward. Ninety per cent of the injuries are of the internal cartilage as it is more loosely attached than the external one. The pain is severe at the time of the injury and the joint locks, that is, in about 75 per cent of the cases the joint can neither be flexed or extended and in none of the cases can the joint be completely extended. Occasionally the cartilage can be felt protruding between the condyle of the femur and the head of the tibia and can sometimes be reduced by manipulation of the joint. The manipulation consisting of reversing the motion that dislocated the cartilage. If reduction cannot be accomplished the knee should be put at rest for a few days and then motion allowed which will result in the cartilage being released and it will resume its normal position if a simple dislocation has occurred. If the symptoms subside in ten days or two weeks one can be sure that the injury was only a dislocation and if it is the first offense then a knee cage should be worn for six months in order to prevent acute flexion of the joint. If this is not done recurring dislocations will likely occur and removal of the cartilage becomes necessary to prevent disability. On the other hand if the joint remains painful over the injured cartilage and complete extension is not possible at the end of three or four weeks then one can

be sure that a fracture of the cartilage has occurred and the joint will not become symptom free until the cartilage is removed.

I would like to urge that the profession generally be more careful in the management of injured cartilage cases. Usually the patient's story is, "that the knee was locked after the injury and the M. D. said an operation would be necessary to relieve the condition but that they went to an osteopath who put it right in a few days and that the knee was just as good as ever until they injured it again." The facts in the case are that no one can tell at the time of injury whether the cartilage is simply dislocated or whether it is fractured, however, a few days always tells the story. If it is fractured, then the knee never gets right until it is removed as a fibrous union always results from the fracture which produces a thickening of the cartilage for which there is not room in the joint space and results in a more or less constant disability. No osteopath can put these joints right but one does not hear them criticized for the failure nearly as much as they are praised for their apparent success in the cases that would get right just as quickly if left alone.

The operative technique of removal of semilunar cartilages will not be gone into. Suffice it to say that it should always be done with the strictest aseptic details; no instrument or gauze that goes inside the knee joint should come in contact with the skin or the gloved hand of the operators or nurses. A tourniquet should be applied and left on until all of the layers of the incision are sutured. A cast or splint is not necessary if a whole roll of cotton is wrapped around the joint after the usual dressings are applied, as this furnishes a sufficient amount of immobilization. The cases can be allowed up on crutches in ten days; on a cane in three weeks and full function in six or eight weeks. The end result is satisfactory in that they have no disability for any ordinary work or play, but continued forced stress will cause the joint to give out quicker than its mate in



which the cartilage has not been removed.

Below is an abstract which is typical of a case that was operated at Bell Hospital recently.

B. W. A., age 18 years. Student. Admitted to hospital, March 11, 1929. Had left semilunar cartilage removed March 12th, 1929; discharged from hospital, March 23, 1929. April 16, 1929, has no pain but still uses a cane as knee feels a little weak.

He gave the following history: That two and a half years ago injured left knee playing football; in bed one week with the joint swollen and painful, then about as usual but for a time his knee seemed weak and the joint came out frequently but osteopathic treatments relieved it. A year later (1½ years ago) injured knee again, severely, could not straighten it for a week and joint was swollen but chiropractor kept him from going to bed and soon put it right and he had no trouble until four months ago, December, 1928, when the knee gave way under him when turning suddenly, playing basket ball. The joint locked and was swollen and he has been on crutches practically all the time since.

On examination is a well developed and nourished lad, negative in every way except for left knee which presented definite capsular thickening over inner side of joint; complete extension of the joint not possible (lacks 20 degrees); definitely painful over internal semilunar cartilage. *x*-Ray of joint entirely negative. Diagnosis: Fractured internal semilunar cartilage left knee joint. Advised immediate removal.

Summary: Injuries of the knee joint structures should be properly diagnosed and treated definitely in accordance with the structures injured. Failure to do so often result in chronic disability. Surgery is indicated only in fractured semilunar cartilages or in recurring dislocation of the semilunar cartilages.

#### R

#### Dreams Do Come True

The Hoffmann-LaRoche Chemical works have secured a tract of land at Nutley, New Jersey, 12 miles from New York City and are there erecting their

new laboratories. Ground was broken with appropriate ceremonies last November and the construction work has been pushed with such vigor that it is hoped the Company will be able to move from their present quarters, 19 Cliff Street, New York City, to New Jersey early in May. Dr. Emil Barell, director of the Hoffmann-LaRoche activities in Europe, was present at the November ceremonies and turned the first shovel full of earth. Mr. Elmer H. Bobst, general manager of the Company, made an address full of hope and faith in the growth and success of the Roche organization.

This Company manufactures a large number of council accepted products that are advertised in the official State Medical Journals and readers of this Journal will naturally be interested to know of the new developments which make it possible for the Hoffmann-LaRoche Company to greatly increase their production. This has been their dream and now the dream has come true.

—R—

#### Conservative Treatment of Otitis Media of Infants

CALDWELL B. SUMMERS, M.D.  
Department of Pediatrics

In the past few years a myriad of articles have occurred in the literature on otitis media and its sequelae. Every day more and more stress is being placed on the seriousness of acute otitis media. The list of symptoms that are supposedly the result of otitis is increasing daily until now it is quite large. Many go so far as to say that any obscure fever in an infant without apparent cause must arise from a disturbance in the middle ear cavity or mastoid antrum. Formerly it was thought to be a pyelitis and a generation ago it could be easily accounted for by erupting teeth. Many to this day depend on dentition for unaccounted for fevers. At the present time otitis media or hidden mastoid seems to be the vogue. To place the blame of an obscure temperature on the teeth is ordinarily devoid of danger, also to say the infant has pyelitis and to alkalinize the urine does little injury to the patient even though the diagnosis be wrong, but to say it is an otitis media and proceed to

lance both drums or do a double anthrotony may lead to serious consequences unless actual pathology be present. It is for this reason that I am writing this paper so that we can be more conservative in our treatment of ear infections, or conditions thought to be the result of ear infection or hidden mastoids.

It seems to me that we are taking unfair advantage of the helpless creature who cannot express his or her feelings or desires, or contradict any statement made by the doctor. I feel as though some brave soldier should volunteer his assistance. The mother of course being all confident in the doctors advice and management, willingly consents to any procedure whether it be ear drops or a paracentesis. Granting that either of the two procedures is thought best would it not be more rational to consider otitis media as a complicating condition rather than primary and to treat it as such?

In this radical treatment all procedures are directed to the ear and not to the primary cause of the trouble which is the posterior nares and naso-pharynx.

The newer idea of medical practice is prevention i. e. the treatment of the primary condition thus preventing complications. When complications have developed our primary duty is to find first the cause and direct our treatment there. For instance in rheumatism do we not first search for a focus of infection, the G. I. or G. U. tract, teeth, tonsils, etc., instead of treating the secondary condition? The same idea should prevail in the case of an otitis. We all agree that otitis is a complicating disease with measles, scarlet fever, diphtheria, tonsillitis, etc., but many of us fail to realize the fact that it is far more frequent accompanying a head cold or coryza. Do we not see a hundred infants ill with a simple coryza to one with an acute exanthem? In our scientific search for the unusual we neglect the importance of the every day case. This article may seem out of line for a pediatrician but do we not as pediatricians see far more acute colds and red ear drums than the ear specialist? May I mention also along with coryza, the frequent cases of tonsillitis and pharyngitis. We see an in-

fant that has been ill two or three days and on examination find an inflamed ear drum accompanying a head cold or coryza. Do we not make much comment about the red ear drum and only casually mention the nasal obstruction, suggesting ear drops or even go so far as to perforate the drum? Is it not more logical to consider the nasal inflammation of primary importance and treat it energetically thus preventing injury to the nasal mucous membrane and entrance of the infection into the middle ear through the eustachian tube?

This to me is similar to a doctor treating the infection of the eyes in measles with nothing else than dark glasses or a dark room using no medication in the eyes. Would it not be more important to treat the infected eyes and keep the room properly lighted? In a similar respect would it not be more rational to treat the posterior nares and see the otitis improve?

During the present epidemic of measles I have not had a single case of purulent otitis media, merely because of proper care and attention to the nasal inflammation.

For the past five years I have had the supervision of a baby home accommodating fourteen beds which are practically filled throughout the year. In looking over past records I have had the care of approximately 400 infants with only three incidences of purulent otitis. I can only account for this scarcity of middle ear infections because the above procedure in treating the posterior nares was carried out. Institutional infants are subject to upper respiratory infections and epidemics of colds of which we have had our share but by proper medication we have prevented middle ear infections.

In my practice I have a daily clinic where I see on an average from ten to twenty infants and children and the occurrence of otitis media purulenta is so uncommon I give it very little thought.

Do not misunderstand me; I do see quite a number of red ear drums but I have never made it a practice to lance them; instead I direct my therapy to the posterior nares, and in that way direct my medication to the primary focus. One



thing I am frank to admit and that is I find it quite a difficult matter to be positive of my ear findings and especially is this true with very young infants. Nevertheless, regardless of whether I get a clear view of the drum or not my therapy is directed to the nose and not the ear. *I am a true believer in mother nature with a little assistance from her doctor.* I do lance ear drums or have them lanced by a competent ear man but the occasions are infrequent. In other words otitis media purulenta and mastoid involvement in my experience are rare occurrences. I feel as though a more conservative treatment of otitis will be more beneficial for the little patients. I am very firm in my belief that too much surgery is being done on these infants without justification. Are the qualifications of a good surgeon judged by his ability from a mechanician stand point? No! a good surgeon is one who has surgical judgment *i.e.* the one who knows the proper time to operate. Is this not true in appendicitis and chest empyema cases as well as many other surgical conditions? The same judgment should prevail in the case of inflammation of the middle ear. To lance the drum merely because it has lost the natural lustre or because it is reddened is to me poor surgical judgment and is inviting trouble. Therefore let me in conclusion plead for a more conservative treatment of doubtful ear drums.

—R—

### MEDICAL SCHOOL NOTES

Dr. Thomas G. Orr spent a few days at the Augustana Clinic in Chicago, Illinois, and Mayo Clinic, Rochester, Minnesota.

Dr. Claude F. Dixon, '21, now has charge of one of the surgical sections at the Mayo Clinic. Dr. Ralph G. Ball, '27, has a Fellowship in Medicine at this Clinic.

Dr. William J. Engle, '26, is spending another year at Cleveland Clinic, Cleveland, Ohio. Dr. Engel is on Dr. G. W. Crile's service.

Dr. Edward H. Hashinger read a paper before the combined Sumner and Harper Medical Societies, Harper, Kan-

sas, March 20th, under the auspices of the University Extension Course, on "Aortitis."

Dr. Ralph H. Major read a paper before the Omaha-Douglass County Medical Society, March 26th, on "Observations on Arterial Hypertension."

Dr. Lawrence P. Engel read a paper before the Decatur-Norton Medical Society on Goiter, April 10th.

Dr. Ferdinand C. Helwig, '22, Associate Professor of Pathology, attended the annual meeting of the Association of American Pathologists and Bacteriologists in Chicago recently.

Dr. Karl A. Menninger, lecturer in psychiatry, was in New York in March attending the meetings of the American Orthopsychiatric Association and the New York Neurological Society. Dr. Menninger read papers before both of these societies.

Dr. Francis Pottenger of Monrovia, California, a specialist in tuberculosis, was the guest of the Jackson County Medical Society on March 26th. Dr. Pottenger addressed the junior and senior students at noon.

Dr. Franz Haslinger of Vienna, a guest of the Kansas City Eye, Ear, Nose and Throat Society, visited the Medical School recently. Dr. Haslinger is laryngologist to the Hajek Clinic in Vienna and is the inventor of the Haslinger bronchoscope. Dr. Haslinger demonstrated this bronchoscope to the medical students.

—R—

### DEATHS

Harry L. Hawley, Englewood, aged 64, died suddenly February 27. He graduated from Kansas City Medical College, Kansas City, Mo., in 1896. He was also a registered pharmacist.

Ira L. Maxson, Larned State Hospital, aged 59, died March 4, from diabetic coma while on a visit in Wichita. He graduated from Hahnemann Medical College, Kansas City, Mo., in 1901. He was a member of the Society.

William Henry Harris, Kiowa, aged 70, died January 9 of nephritis. He graduated from American Medical College, St. Louis, in 1881.

# THE JOURNAL

of the

## Kansas Medical Society

W. E. McVEY, M. D. - - Editor

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### THE MEDICAL SCHOOL NUMBER

For several years the May number of the Journal has been designated the Medical School Number and practically all of the material it contains is contributed by members of the faculty.

Every member of the Society should fully appreciate the fact that there is an intimate relationship between the medical school and the medical profession of the state, and particularly between the medical school and the Kansas Medical Society.

It is inevitable that the medical school shall play an increasingly important part in the progress of medicine in this state. With the increasing number of its alumni its influence in medical affairs must be more and more pronounced. In its early history the school was largely dependent upon the medical profession for the political influence and support required to secure necessary appropriations and is still to some extent so dependent. But it is now recognized as one of the State's most important institutions which the legislature dare not fail to provide for. On the other hand the medical profession

must continue to grow more and more dependent upon the medical school. Scientific medicine is developing so rapidly and along such widely diverging lines that no individual effort will suffice to keep in touch with the outposts of advanced knowledge. In this as in other states it will devolve upon the medical schools to serve as supply stations or clearing houses, where the results of clinical and laboratory research will be assembled, classified and arranged for practical application. The service of a medical school has only begun with the training of students and in the future that will be only an incidental part of its function.

### POSTGRADUATE MEDICAL EDUCATION

The progress of knowledge in the medical sciences is so rapid that most physicians recognize the need of periodic attendance at meetings where they can acquire a reliable interpretation and significance of recent medical developments. No better evidence of this thirst for practical knowledge, emphatically and concisely put by great clinical teachers, can be afforded than by the packed audiences of physicians attending such popular meetings as those of the Tri-State Medical Society where several thousand have been known to attend at one time. The earnestness of these men is further shown by the manner in which these practitioners crowd into these clinics from 7:00 a.m. to 10:00 p.m., many often carrying their lunch with them so they will miss nothing.

This intense cry for efficient medical instruction for practitioners has made a deep impression on the authorities of many state universities and has awakened in them the realization that it is just as much their duty to keep the doctors in practice educated, as to educate them in the first place, and that they



should afford the practitioner an opportunity to keep up with the recent developments in medicine. Accordingly, the Extension Division of the University, collaborating with the Medical School, has offered courses in medicine as well as in academic subjects.

The development and adequate instruction in medicine for postgraduates is much more difficult and complex than in the more academic fields. The problems arising from such courses are far more difficult to surmount than those involving undergraduate medical instruction. The students are much more critical, the amount of clinical material needed is much more extensive and varied, and complications both economic and professional are very apt to arise and lead to adverse criticism of the work done.

This attempt of universities to enter into postgraduate medical instruction is largely in the experimental state and mistakes are apt to occur. Various types of courses are offered. Some schools give a graded, carefully supervised course of one to three years, adaptable to only a chosen few, who are usually specialists. Such a course is manifestly impractical for the great bulk of practitioners.

Other schools offer circuit courses which bring the instructors directly to the home of the doctor and relieve him of the necessity of leaving his patients while he is getting this instruction. In Kansas this was carried out recently in one specialty and in less than a year's time almost twenty-five per cent of the practitioners of the state had enrolled in this course with almost universal enthusiasm over the results obtained. The trouble with this system is the scarcity of real, genuine clinical teachers, who have the inclination and can afford to sacrifice their own practice to give this

instruction. For this reason further courses of this type had to be at least temporarily discontinued.

Short intensive courses in various specialties have been offered in the Medical School with varying success. Such courses are given by men of unquestioned professional standing and of exceptional teaching ability. These courses have also given general satisfaction but reach relatively few physicians. Here again suitable instructors are scarce.

Another method that has been used is a week of intensive clinics given in the Medical School during the vacation period. This has certain advantages but manifestly is suitable only to a relatively small number of physicians. The opening of the facilities of the School to a relatively small number of practitioners who attend the clinics and classes of the undergraduate students has been tried and one man in particular, after being here a month, could not say enough about the value of the experience he acquired while mixing with the other students.

It should be recalled that up to the past decade there was little opportunity for postgraduate instruction in this country. Then the recourse for the average man who had the irresistible urge for more medical information was to give up practice and go abroad. Now numerous opportunities are being developed at home and increasing numbers of men are availing themselves of this opportunity.

Some postgraduate instruction is being offered by the medical profession itself, either under the auspices of the state medical society or some other recognized medical organization. Whether such courses are better adapted to the general practitioner and have advantages over those offered by the extension divisions and medical schools of the country remains to be seen. The former are apt to be more immediately practi-

cal, but, on the other hand, the university has a primary educational interest in such courses while in the various medical bodies the educational motive is not always uppermost. It will be of interest to all concerned to note the progress of these courses. The medical schools are particularly interested in ascertaining the reaction of the practitioner toward these courses and will welcome any suggestion or criticism of this type of instruction.

H. R. WAHL.

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## SOCIETIES

### CLAY COUNTY SOCIETY

The Clay County Medical Society held its monthly meeting at the Clay Center Community Hospital, April 17, at 8 p.m. The program, which was indeed very instructive and enjoyable, consisted of a lecture on "Toxemias of Pregnancy," by Dr. Buford Hamilton of Kansas City, Mo.

X. OLSEN, Secretary.

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### CENTRAL KANSAS SOCIETY

Central Kansas Medical Society met at St. Anthony's Hospital at Hays, on March 26.

Dr. Emmet F. Robinson of Kansas City, Mo., read a very instructive paper on Surgery of the Stomach. Dr. Frederick C. Narr of Kansas City, Mo., read a paper, accompanied by lantern slides, on Renal Pathology.

Forty members and several visitors were present.

Dinner was served at the Brunswick Hotel for the Society and the Ladies' Auxiliary.

F. K. MEADE, Secretary.

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### WILSON COUNTY SOCIETY

The Wilson County Medical Society met March 12th at the Loether Hotel for supper and regular session. Several matters of importance were talked over. It was decided to co-operate with the County Superintendent in giving the country schools of the county medical inspection of the children this fall. A com-

mittee was appointed and we think this will be carried out.

The matter of newspaper education of the public on health matters was discussed and a committee is now getting data from the A.M.A. and other sources regarding how best to do it.

April 8th the members of the Society and their families and invited guests met at the Methodist Church at Altoona to celebrate Dr. W. H. Addington's fiftieth year as a practicing physician. Mrs. Addington, who suffered a broken hip three months ago, was brought to the meeting in a wheel chair. She is 75 years old and the doctor the same age. Two more cheerful folks you never saw. Banquet by the Methodist ladies. Dr. F. M. Wiley acted as toastmaster and the program went off splendidly. The guests were Mrs. F. T. Allen of Neodesha and Mrs. M. L. Somers of Altoona, whose husbands were pioneer physicians of this county; Dr. Thos. Blakeslee of Neodesha, who arrived in Altoona fifty-nine years ago fresh from Rush Medical College, with a silk hat and on a load of flour muled in from Humboldt; Mr. and Mrs. Paul Wiley; Drs. L. D. Johnson and J. N. Sherman and their wives. After those on the program had their say, the toastmaster called on guests and members for remarks. Mrs. Addington was presented with a lovely corsage of flowers and a charming young lady pinned a rosebud on the doctor; at the close, Dr. and Mrs. Addington were presented with a basket of beautiful flowers and the doctor an easy chair.

So many nice things were said about the honor guests, their ears should tingle for a long time. After sincerely congratulating the good doctor and his wife upon their long and honorable career in the service of humanity, the meeting adjourned.

E. C. DUNCAN, Secretary.

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### DICKINSON COUNTY SOCIETY

The Dickinson County Medical Society met in Herington, April 11, at the Hotel Worthington where dinner was served. Dr. Geo. Goodsheller of Marion, read a paper on a "Case of Pernicious Anemia." Dr. J. Park Neal of Kansas



City, Mo., read a paper on "Surgical Emergencies of the Acute Abdomen." The Society then went to the Herington Hospital where Dr. Neal conducted a surgical diagnostic clinic.

DANIEL PETERSON, M.D., Secy.

#### STAFFORD COUNTY

Society met in St. John Thursday evening, April 11, with the following members in attendance: F. W. Tretbar, J. J. Tretbar, Stafford; M. M. Hart, Macks-ville; L. E. Mock, R. E. Stivison, J. T. Scott, St. John. G. E. Paine, Hutchinson, W. F. Bernstorff, M. C. Jenkins, Dr. Joslin, Pratt, Dr. Ireland, Coats, were guests.

Dr. Paine read a paper on Malta Fever and called attention to the fact that this disease is not rare and is frequently diagnosed as Typhoid Fever. He spoke of different types and in the worst type the tendency was to recurrence and ultimate death. It is believed to be a milk borne disease and in blood examinations patients frequently show positive reactions but do not contract the disease, which he thinks is due to the fact that an immunity has been gradually developed.

This disease is new to this country, at least as far as diagnosis is concerned. The paper was ably discussed by Dr. Bernstorff, who was only acquainted with it from information he had acquired from medical literature.

Other physicians present felt that they had possibly treated such cases as the diagnosis they made did not exactly fit the clinical course that followed. One physician called attention to the case of the father of Publius, the chief man of the island, whom St. Paul treated and healed after being shipwrecked on the island of Malta while on his way from Cesarea to Rome as a prisoner (Acts 28:8, 9), and expressed the opinion that these were probably cases of Malta fever. No specific treatment is known.

It was an interesting and profitable meeting. Our May meeting will be held on the evening of the third Thursday so as not to conflict with the State meeting at Salina.

Dr. Embry of Great Bend and Dr.

Ireland of Coats will read papers and the public will be invited.

J. T. SCOTT, Secretary.

—R—

#### TUBERCULOSIS ABSTRACTS

Dr. Fred Heise, who contributes this number, is Chief Resident Physician of Trudeau Sanatorium, the first institution of its kind established in this country. From the little red cottage built by Dr. Trudeau in 1885 for the treatment and care of two patients, this institution, located in the heart of the beautiful Adirondacks, has grown to one of many buildings and has acquired a world-wide reputation. Dr. Heise, while admitting that the history is only suggestive in the diagnosis of tuberculosis, insists upon its importance and interprets the meaning of the several symptoms, which, like warning semaphores, direct attention to-



ward the pathological conditions of this many-phased disease.

#### THE VALUE OF THE HISTORY IN THE DIAGNOSIS OF PULMONARY TUBERCULOSIS

Pulmonary tuberculosis may exist without any suggestions of ill health on the part of the patient, either in the immediate past or present. So it can be said that one must not expect to discover pulmonary tuberculosis only in those having suggestive histories.

It must be remembered that pulmonary tuberculosis very infrequently goes on to complete resolution perhaps in young children. The more frequent occurrence is quiescence or arrest of the disease for varying periods of time, be-

tween which progression of the disease may take place. It is remarkable what extensive disease may exist with but a very short and indefinite history of impaired health; again it is a fairly common occurrence to have only a small area of lung involvement and marked ill health for long periods of time. In the long run, however, the more extensive or intensive the disease, the more certain are symptoms to occur.

#### HISTORY IS SUGGESTIVE

A diagnosis of pulmonary tuberculosis should not be made on the history alone. At the most, the history can be only suggestive, and other methods of diagnosis must be employed for confirmation. However, when pulmonary tuberculosis is known to be present, the history may be of incalculable benefit in determining the activity of the disease, but it is by no means an infallible guide even here. The constitutional symptoms, fever, undue fatigue, rapid pulse, loss of weight, night-sweats, etc., emphasize the fact that the individual is ill but draw one's attention to no special organ. The occurrence of such localizing symptoms as cough, expectoration, hemoptysis, pleurisy, focus our attention upon the lungs. Yet we know that such symptoms may occur whenever the parenchyma of the lung becomes involved with other infections, tumors, etc. Nevertheless, the practice of making a presumptive diagnosis of pulmonary tuberculosis is justified under certain conditions. We know that even today, in spite of its diminishing mortality, pulmonary tuberculosis is the most frequent chronic pulmonary infection. Pneumonia, influenza and streptococcic infections have a tendency to occur in endemic or epidemic form. In their absence, pulmonary tuberculosis must always be thought of when prolonged cough and expectoration, and especially hemoptysis or frank pleurisy occur.

#### NO INFALLIBLE SYMPTOMS

There is no characteristic cough nor sputum typical, on microscopic examination, in pulmonary tuberculosis. Nor is there a typical hemoptysis or pleurisy. It is a known fact, however, that tuber-

culosis is one of the most frequent causes of hemoptysis, and whenever hemoptysis occurs, tuberculosis must be excluded. Especially is this true of hemoptysis without apparent cause. The same may be said of pleurisy, and especially of wet pleurisy. Probably six to nine in every ten instances of hemoptysis of a teaspoonful or more, of pleurisies with effusion occurring without known causes, may be attributable to pulmonary tuberculosis. It must never be lost sight of, however, that pulmonary tuberculosis may occur without hemoptysis of any amount and without pleurisy of any description and, what is even more surprising, without recognized cough or expectoration. Cavities may even exist under these conditions.

#### SYMPTOMS DEMAND SEARCH FOR CAUSE

Public health agencies used to impress us with the idea that the occurrence of fatigue, loss of weight and strength, nightsweats, anorexia, fast pulse and slight fever spelled the onset of tuberculosis. In many instances, of course, it does. For these are the common symptoms of systemic intoxication, whose seat of origin may be anywhere but is frequently in the lung. Not one of the above-mentioned symptoms is in the least more characteristic of pulmonary tuberculosis than of some other disease. Nevertheless, they do signify an alarming condition whose real nature must be searched for. But if by other means pulmonary tuberculosis has been discovered, the occurrence of these symptoms aids tremendously in evaluating the activity (progress) of the process. It must be borne constantly in mind that for varying periods of time pulmonary tuberculosis may be progressive without the occurrence of constitutional symptoms, or with such slight occurrence as to cause them to be overlooked by the patient.

#### SUMMARY

There are no typical symptoms in pulmonary tuberculosis.

The constitutional symptoms point out that the patient is suffering from an active lesion.

The localizing symptoms indicate a pulmonary or pleural lesion.



Hemoptysis or pleurisy with effusion should be looked upon as tuberculous until proved otherwise.

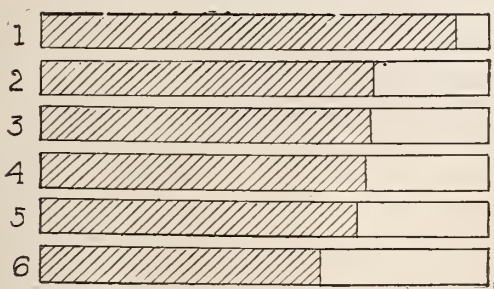
The constitutional symptoms are not diagnostic of the disease but afford a good index of its activity.

#### FAMILY HISTORY IS SIGNIFICANT

Other interesting things pertaining to diagnosis and in a way helping to substantiate it may be gleaned from the history. We know, for instance, that a family history of tuberculosis usually means prolonged and intimate exposure and that these conditions predispose to tuberculosis in childhood. Why some children in the same family with apparently the same exposure as others should fail to develop the disease, while older and younger children do, cannot be entirely explained, but the fact of intimate, prolonged exposure, leading to disease in childhood, is not questioned nowadays. In adult life, a history of exposure apparently does not have the same significance.

In former years, great stress was laid upon underweight as of significance in diagnosis. More recently, Chadwick was able to show but little difference in weight in the tuberculous and non-tuberculous children until the children were 25 per cent underweight. In adults, weight is no sure measure of the presence or absence of tuberculosis. Usually, however, a slight loss of weight is noted.

**PRINCIPAL SYMPTOMS WHICH 1500  
TUBERCULOUS PATIENTS RE-  
PORTED TO PHYSICIANS**



- 1—1309 patients complained of cough.
- 2—1115 patients reported loss of weight.
- 3—1114 patients expectorated freely.
- 4—1095 patients reported loss of appetite or indigestion.
- 5—1069 patients reported loss of strength.
- 6—944 patients complained of fatigue.

From special study—National Tuberculosis Association.

#### HISTORY MAY BE NEGATIVE

Pulmonary tuberculosis is a many-phased disease. It may exist, usually in more limited areas but occasionally in extensive areas, without any symptoms at the time or immediately preceding its discovery. Cough and expectoration may never have been present if the patient can be taken at his word. Cavities even may exist without cough or expectoration, and the patient may die without ever having had hemoptysis or pleurisy with effusion. The disease may progress without exacerbation of symptoms or even without symptoms for a while, and in spite of a progressive gain in weight. The history of the patient cannot, therefore, be an infallible guide in diagnosis or treatment, and wherever it is feasible, other measures of diagnosis should always be utilized. Particularly should the sputum be examined microscopically and roentgenographs be taken of the chest.

R

#### Modern Diagnosis

In a brief summary of modern diagnosis, James B. Herrick, Chicago (J.A. M.A., Feb. 16, 1929), says: The thought centers about the general practitioner. He is able to diagnose the majority of commoner ailments as well as a large proportion of typically frank, rarer, serious examples of well known disease. Often, however, in order to tell what is the matter in a complicated or obscure case he must appeal for help to the clinical or laboratory specialists, who may work singly or in groups. In doing this he should realize that the specialist may be narrow minded, the technician incompetent to interpret in terms of bedside disease. The group diagnosis may be lacking in information as to the essential detail, which may be lost in the blur of a characterless composite picture. The physician should not stubbornly refuse to accept the new nor should he be carried away by its supposed scientific accuracy. He should learn to employ the laboratory and instruments as important or, at times, indispensable aids to the older methods of history taking, physical examination and personal contact. In order rightly to judge of the need and value of special examination in

a given case, he should have had undergraduate training in more than the so-called essentials of medicine. In one or two branches his studies should have been of an intensive, concentrated character that enables him to understand his own limitations and those of others. This will make him a master in some one branch, with a self-respect that comes from the consciousness of power, will give zest to his work, will arouse in him the desire to continue such study into his life of practice and even to do investigative work of his own. It will make him a contented, forceful, progressive practitioner who can trust himself and therefore be trusted by others in that most important function of the physician, the telling of what is the matter with those who are ill.

————— R —————

#### **Comparison of Luekoplakia, Malakoplakia, and Incrusted Cystitis**

Two cases of incrusted cystitis, two cases of leukoplakia of the bladder and one case of vesical malakoplakia are reported by Francis H. Redewill, San Francisco (J.A.M.A., Feb. 16, 1929). To warrant a diagnosis of malakoplakia, a portion of the plaques removed should show macrophage cells and Michaelis-Gutmann bodies. Cases of malakoplakia are rare, only forty-four cases having been reported in the literature to date. Eighty-eight cases of leukoplakia have been reported, whereas incrusted cystitis is of rather common occurrence. These three infestations of the urinary bladder resemble one another in that calcium salts are deposited and there is a tendency to epidermization. The pushing of all the vitamins in the diet, and the injecting of parathyroid were found to aid materially in the treatment of all three of these conditions. Valuable adjuncts in the treatment are the Player method of cauterizing, diathermy and ecto-antigen injections. Malignant changes in the vesical plaques and blocking of the ureters are grave complications. However, if the lesions have not advanced to the malignant stage, even involvement of the kidneys and ureters—provided the ureters are patent—need not necessarily portend a bad prognosis, if parathyroid

and vitamins are administered early with routine treatment. When parathyroid is administered, accurate determinations of the serum calcium should be made to avoid overdosage; i. e., symptoms of hypercalcemia.

————— R —————

#### **The Child With Potential Heart Disease**

C. G. Kerley, New York (J.A.M.A., Feb. 16, 1929), stresses the fact that there is a type of child that is particularly susceptible to the infecting agencies that cause heart disease. Such a child possesses what is termed a favorable soil and may be recognized and belongs to one of three groups: Those who have or who have had rheumatic fever; those who have or who have had chorea; those who complain repeatedly of pain in the extremities which may not be accounted for by trauma or disease. A particularly susceptible child may be classified as belonging to the three groups. Heart disease in children so afflicted may be prevented in many by the eradication of diseased foci, first with a persistent and later with an interrupted use of salicylic acid alone or combined with an alkali. When physicians appreciate the dormant possibilities behind the "growing pains," heart disease will be appreciably lessened.

————— R —————

#### **Prenatal Prevention of Potential Hemorrhagic Disease of New-born**

A biochemical study made by I. Newton Kugelmass and John E. Tritsch, New York (J.A.M.A., Feb. 16, 1929), of the clotting components of the blood from the second month of pregnancy to term in a woman who had given birth to five infants, three of whom, and possibly a fourth, had had true melena neonatorum, showed prothrombin deficiency analogous to that observed in true melena neonatorum. Nutritional therapy of the mother throughout pregnancy developed and maintained a normal maternal blood before birth. The fifth pregnancy terminated in the birth of a normal nonbleeding infant. This case is suggestive of the possible value of prenatal treatment in bringing about the physiologic perfection of the new-born.





ERASTUS S. EDGERTON, M.D., Wichita  
President-Elect, Kansas Medical Society, 1929





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### OUR ORGANIZATION

#### Presidential Address

L. F. BARNEY, M.D., Kansas City, Kan.

Read before the Kansas Medical Society at Salina, Kansas,  
May 7, 1929.

A year ago at the annual meeting at Wichita, you took me from the ranks and elevated me to the highest pinnacle within the gift of the greatest and most altruistic profession in the greatest state in the greatest country of the universe. This sounds big; it is big for it is all true and in my humble way I wish to express my appreciation and gratitude for this great honor. An honor of which I am proud; an honor of which every member would be and should be proud. Should those of you who have never experienced this particular thrill ask me how it feels to be so kindly treated I would say that it is like going to sleep and dreaming you are Chester Gump and that Uncle Bim has come along and given you every thing in the whole world that you may desire, later to awaken and realize that along with this great honor there are great responsibilities and great possibilities had I the qualifications and ability to carry them out.

In looking over the duties of the president, our by-laws say that he shall deliver an annual address. When the society was organized seventy years ago its chief, and we might say only, purpose was medical education and the presidential address was on a scientific subject, but with growth came more responsibilities and it took on broader activities. While the constitution does not so state, custom has now decreed that the presidential address shall be on some or all of the activities of the organization, a very unpopular but a very essential part of the program and I have selected for my subject, OUR ORGANIZATION.

The Kansas Medical Society was organized in 1859 just prior to the civil

war, before Kansas was a state, and in 1904 was reorganized to conform with and become a more active part of the national organization, the American Medical Association, and we are now celebrating the silver anniversary of its reorganization.

At the time of its organization the country was sparsely settled, social intercourse was limited, the ramifications of governmental responsibilities were not so stringent and the opportunities for study and advancement were so meager that the privilege of attending any meeting was a rare treat and the greatest handicap was the arduous travel to the place of assembly. Today the reverse exists, distance has been almost annihilated, opportunities for study have become almost unlimited, church and state are manipulated by so many various organizations which so demand the time of the public, especially the leaders of the community, that unless you be on your guard you have no time for professional advancement, and worst of all, the greatest of all institutions, home. Furthermore, the science of medicine has broadened its horizon so far that no one individual can see the entire landscape and this too has brought about a multitude of medical organizations which are further encroaching on your time until one hardly knows which way to turn. Is it not time for us to "stop, look and listen"? Is it not time for us to reconnoiter and see which way to advance? First ask yourself what is your chief vocation. Is it your profession? Is it social or athletics? Is it politics? Is it church? In all of these to excell you cannot stand still, you must advance. In all of these you should partake but you cannot excell in all.

Today is the day of specialization both in its broadest and narrowest sense. In its broadest sense choosing a vocation or

profession instead of being a "jack of all trades." In its narrowest sense doing only a part of the things of one vocation or profession. One extreme is as bad as the other; for the general practitioner to attempt to do an excision of a gasserian ganglion is about as ridiculous as the specialist who limits his practice to the treating of perionychia of the fourth right pedal digit.

When you chose the study of medicine you should have made a decisive step. When you had spent from four to seven years in special study and preparation for the practice of medicine you owed it to yourself and to your family to make that your calling. When you went through the medical school you did not pay for your medical education for it costs this state more than two thousand dollars for every physician it graduates and you owe it to the state to repay it by efficient help in maintaining the health of the community. When you entered medical college you prevented some other fellow from studying medicine for there are four times as many applicants as there are places of enrollment in our medical school and you owe it to the public to furnish them the most proficient medical care. Your decision, therefore, was a momentous decision with great and wonderful responsibilities, but if your work has been of the highest character it has been interesting work and it was a happy decision. When you graduated from medical college you dedicated your life to the practice of medicine in some way and every thing else should be subordinated but not removed from it.

Having made this decision, how can you render the greatest service? "He profits most who serves best," a truer motto was never written.

It is universally recognized that the field is so broad that no man can accomplish much in the practice of medicine without the aid and co-operation of his fellow practitioners. How, then, may this best be obtained? By organization. Today is a day of organization. Economics demands it. Every group of workers of the least importance are organized. If they are organized for only selfish mo-

tives they accomplish little and sooner or later become a menace to the community but if they are organized to increase their efficiency and have a true co-operative spirit they not only help the community, but make themselves indispensable.

Organization is therefore necessary. We have the organization. Is it functioning 100 per cent? If not there is a cause. Either its principles are not right or its members are not right. There is a true saying that no government can be better than its people, likewise no organization can be better than its members.

I have carefully studied the principles upon which our organization is builded and have pondered over the wisdom shown when the A.M.A. was reorganized in 1901. It would seem that its constitution compares favorably with the greatest constitution ever written, the Constitution of the United States of America. Its purposes are similar to that of the Kansas Medical Society and to other state medical societies; to that which is written in our constitution:

1—To federate and bring into one compact organization the entire medical profession.

2—To extend medical knowledge and advance medical science.

3—To elevate the standing of medical education and to secure the enactment and enforcement of just medical laws.

4—To promote friendly intercourse among physicians.

5—To guard and foster the material interests of its members, and to protect them against imposition, and to enlighten and direct public opinion in regard to the great problem of state medicine, so that the profession shall become more capable and honorable within itself and more useful to the public in the prevention and cure of disease and in prolonging and adding comfort to life.

Could any purposes be more valuable, more practical, more idealistic and more altruistic? Also the constitution is definite and yet elastic so as to be amendable to conform to changing times and conditions.

Medical education was in a deplorable condition and the American Medical Association was organized in Philadelphia



in 1847 primarily to improve this. In 1901 it was reorganized in St. Paul to again improve medical education and to broaden its field of usefulness.

Has it fulfilled its purpose in the way of medical education? Time will not permit me to fully discuss this. At the time of the reorganization there were more than two hundred so called medical schools in the United States, mostly private enterprises, founded, not chiefly for the education of the students but for private gain, especially to increase the incomes of the stockholders and the professors. Now there are eighty medical colleges supported by the states as a part of the State Universities or by endowments, or both. They are conducted at a great financial loss, primarily for the education of the medical profession. Today the least outstanding of these schools is by far greater and better than was the leading ones at the time of the reorganization. Has the national organization done anything else? Yes! This is only one of many of its great accomplishments, many of which most of us are not aware. How would you like to practice medicine today, during this reign of commercialism and depressed moral integrity, without the Pure Food and Drug Act which would have never been, had it not been for the A.M.A.? Is not the Council on Chemistry and Pharmacy doing a wonderful work in standardizing and pointing out useful and potent drugs? Many of you older men can remember when you could give an ounce of tr. digitalis from one bottle and get less effect than you would from ten minims from another bottle and most unfortunately there was no way of assuring yourself which was the stronger before you gave it. The same applied to other drugs. Even quinine was frequently adulterated. Were these not dangerous times for both patient and physician?

The exposure of the "quack" and its aid in their prosecution and elimination has done much to lessen their nefarious activities and preying upon the credulous public, which, while it has not probably increased our incomes, possibly reduced them, has made the practice of medicine much more pleasant and wholesome. You

say, what if we do have less quacks, we have the cults instead. True but they are less dangerous and they too are on the decrease. In 1920 there were 13 schools of osteopathy while in 1927 there were only 8. In 1920 there were 79 schools of chiropractic while in 1927 there were only 40. There is not only a great reduction in the number of schools but a greater reduction in the number of students and graduates in these surviving schools. It always has been and always will be that the great are envied. The greater they are the more there are to envy and there will always be those who will try to reach high pinacles by royal roads than by the straight and narrow paths. Their reduction and elimination will be, and has been brought about by the education of the public. You can get very little legislation without the support and help of the public. It is appalling how ignorant many of our legislators are on medical problems. Last winter when the Basic Science Act was before the Committee on Health and Public Legislation of our state legislature, one member of this committee in discussing it said he fell and sent for a doctor who told him that he had broken his neck and that he could not cure him but sent him to a chiropractor who would and did cure him. This man, a member of the committee on health legislation of the House of Representatives of the great state of Kansas, did not know that he had neither called a physician or that he had never had a broken neck. A quarter of a century ago you heard much about allopaths, homeopaths and eclectics. What has become of them? The A.M.A. caused the educated and ethical homeopaths and eclectics to join the educated and ethical allopaths which name they subsequently dropped and all of us became regular physicians. Why did they join the allopaths? Because the allopath was not restricted to any one method of treatment but instead treated each individuals requirement using drugs, surgery, serums, antitoxins, hydrotherapy, diet, massage, manipulations, electricity, mental suggestion, fresh air, sunshine and all other things God has so wonderfully put in our hands for the welfare, happiness, pro-

longation and perpetuation of the human race. All of these things you know and therefore realize that there is no need for the cults. Do the public know this? Until they do and learn that no one can successfully dispense these treatments without a thorough knowledge of the basic sciences and a thorough training in their use, they are going to use more or less of the cults.

The Medical Directory is an important and valuable department of the A.M.A. At the time of our entrance into the World War this was the only complete directory of the physicians of the United States. Had it not been for this the most important department of our army, the Medical Department, would have been much more seriously handicapped. Do you know that your biography is there and that every turn you make that gets into the press and some that does not get in is preserved? As one physician remarked after investigating this activity "they know more about me than my wife does." Moral: Watch your step.

The various journals of the society most of which you are familiar with furnish the profession with more dependable literature at a fractional cost than can be had elsewhere. The bulletin you are receiving regularly aids greatly in the study of economics. Hygeia, while still young is doing much in educating the public in maintaining health and helping them to differentiate and see the true light of modern medicine. It is regrettable that its circulation is limited.

The Package Library is another valuable department of the A.M.A. Should you desire to review the literature on most any medical subject for the preparation of a medical paper, for the diagnosis or for the treatment of some particular ailment, or for what not, for twenty-five cents the cost of mailing, they will immediately loan you the literature covering that subject.

These are only a few of the blessings received from our national organization which has cost you only a mere pittance and for which you would not be without for any reasonable sum but many do not seem to realize that they would be impossible had it not been for the various

State and County organizations and the individual members.

What is the State Medical Society? It is the go between between the County and National organizations. It is impossible for the 96,443 members (of 1928) to ever meet in one group and if they could the crowd would be so unwieldy that business could not be conducted, consequently the A.M.A. uses the delegate system in which each state society furnishes its representatives to conduct the business. Likewise it would be impossible for the 1,647 members of the Kansas Medical Society to all get together and conduct business and it, too, uses the delegate system each county or component society having its proportionate number of delegates, one delegate for every twenty members and for each major fraction thereof, and each and every component society being entitled to at least one delegate. These delegates along with the councilors, and the president, secretary and treasurer compose the house of delegates which is the legislative and business body of the society. The delegates elect the councilors, president, secretary and treasurer. Inasmuch as the delegates are elected by the county societies and as each and every one of you are the electors, the responsibility for the conduct of the state society lies with you. If the officers are not conducting the affairs rightly, elect delegates who will see that the affairs are carried out properly. The president is an honorary officer and while he can and should make recommendations he cannot execute them. Custom has rightly decreed that he shall serve only one term so this honor may be passed around.

The treasurer is the watch dog of the finances of the society. If he is not accounting for the dollars and keeping you advised where they go elect some one that will but if he is doing so have your delegates re-elect him. It is a position where time and experience aid an efficient officer.

The secretary of the state society, like the secretary of the county society, is the most important officer in the organization. Upon him more than anyone else depends the success of the organiza-



tion. His duties, as stated in the by-laws, are manifold and he can largely make or break the society. He keeps the records of the proceedings of the meetings of the house of delegates and of the council and is custodian of all records and papers of the society. He collects all funds and issues all checks for every cent expended by the society. He provides for the registration of the members and delegates at the annual session. He must keep a registration of all legal practitioners of the state by counties. He shall aid the councilors in the organization and improvements of the county societies and in the extension of the powers and usefulness of this society. He shall conduct the official correspondence notifying members of meetings, officers of their election, committees of their appointments and duties. He shall employ assistants. He shall supply each component society with the necessary blanks for making their annual reports, shall keep an account with the component societies, charging against each society its assessments, collect the same and at once turn it over to the treasurer. Acting with the committee on scientific work, he shall prepare and issue all programs of the state society. Aside from these there are many other duties not specified in the by-laws. This is a real man size job and requires a man who is thoroughly interested in organization who is tireless, who is punctual as to details and minutes, who is an executive and is a diplomat. Should he neglect or fail in any one of the above the society suffers more than one might at first appreciate. If your society is functioning satisfactorily have your delegates reelect your secretary and continue as in the past. If it is not it is either his fault or it is your fault. If you are not electing efficient officers and councilors to assist him, do it and give him the necessary aid and support. If he is getting efficient support and you are not satisfied find the man who will fill the place and put him there. However, let me caution you to "look before you leap" and "be sure you are right then go ahead." Experience is a valuable aid and the proper man

will function best who has had experience.

Many have thought that the positions of secretary and editor of the journal are of sufficient importance and valuable enough to demand the full time of one man to care for them properly. They also think it would be economical. Several states, Indiana especially, are said to be doing this successfully. I would advise this be thoroughly investigated for it offers great possibilities. At the last meeting of the house of delegates, a motion was passed to appoint a committee to investigate and make recommendations to this meeting but so far as I have been able to learn the committee never received notice of appointment.

Next to the secretary, the councilors are the most important officers of the society and they, too, are elected by the delegates. There are twelve councilors each having a definite district over which he presides. The by-laws say he shall be organizer, peacemaker and censor for his district. He shall visit the counties in his district at least once each year for the purpose of organizing component societies where none exists; for inquiring into the condition of the profession and for improving and increasing the zeal of the county society and their members.

The Council composed of the twelve councilors, the president, secretary and treasurer, settles all questions of an ethical nature brought before the house of delegates or the general meeting of the state society and it is the final court of appeal on all questions of discipline affecting the conduct of members or of component societies on which an appeal is taken from the decision of an individual councilor. The council provides and superintends the publication and distribution of all proceedings, transactions and memoirs of the society and shall have the authority to appoint an editor and such assistants as it deems necessary. This is a heavy financial and moral responsibility. Is your journal all you would ask of it; are its expenses justifiable? If not they have either not selected the right editor or have not given him sufficient support and you should see that your councilor corrects

this. If the journal is satisfactory, from a publication and also a financial standpoint, see that he makes no change in management, for like the secretary's and treasurer's offices, experience is a great asset.

Another prerogative of the council having heavy financial responsibilities is the selection of a defense board which means much to each and every member. Last year it cost the society \$2,475.03. Are you getting value received? If so have your councilor continue as in the past, if not have him act accordingly.

Two and one-half years ago the council formed a committee called the Bureau of Public Relations to mould public opinion and to promote legislation. This committee was composed of the Executive Committee of the Council, the chairmen of the committees on Public Health and Education, on Public Policy and Legislation, on Medical School, with the Editor of the Journal as Executive Secretary. As chairman of the committee on the school of medicine I was a member of that committee, but I have never known of a meeting of that committee to discuss ways and means and yet it has now expended approximately \$5,800. Have you gotten value received, has this been expended judiciously? If so the executive secretary deserves all credit for he has managed it and dispensed it all; if not he, likewise, deserves your reproval for he has handled this practically alone in his own way. Here, too, have your delegates see that your councilor acts accordingly. I have mentioned these expenses as they are the chief expenses of the society and are handled by the council. Besides these they fix the salary of the secretary and editor.

Has your councilor deserved to be told well done thou good and efficient servant, re-enter the council, or shall he be told to step aside and allow some one to fill his place who is more industrious, more interested, more diplomatic and has more judgment. Have you given him the support he deserves? Is your society well organized? Has he visited it during the year as required by the by-laws? Has he smoothed all friction that exists in your county society, either real or imag-

inary? If not seriously ask yourself is it his fault or your fault and then have your delegate act accordingly.

This brings us down to the real backbone of our society, the selection of the delegates. In many societies the delegates are elected the very last officer at the annual election, without any attention to qualifications and interest but simply as an honorary position to help pass the honors around. This is not an empty honor but a real responsibility. If the secretary of the society is efficient as a result of his work he is probably the most interested man in your society and generally speaking I believe he should be a delegate. This will both stimulate his interest in organized medicine and also be likely to make him an active delegate. A delegate who does not attend the annual meeting is worse than no delegate for he prevents the election of a man who will attend. A delegate who attends the annual meeting but, instead of attending the house of delegates, attends the scientific and social functions shows a lack of interest and is selfish and does not deserve the high honor and respect reposed on him.

To select proper delegates you must have an interested and active society. To do this you must select officers, not simply as a complimentary matter, but place those honors where they are merited. The president of the county society like the president of the state society is largely an honorary position but he should not be selected simply because he is a good fellow but rather as a reward of merit for work well done. He, during his term of office, is the real head of the profession of the county and as such should be a man of experience and one upon whom you can look with pride when he represents you.

The selection of a secretary is the most vital to the society of all of the officers. Like the state secretary upon him more than any one man depends its success. Upon him usually falls the burden of arranging the programs, securing the meeting places, collecting the dues and the general running of the society.

In the past the preparation of the program was one of the most difficult prop-



ositions but now with the facilities at hand this should not be so trying. There is not a member of the society who, if he will make the effort, cannot prepare an interesting, entertaining and instructive paper. If he will not choose a subject, select one for him and if he says he has not the library to obtain this information, tell him to write to the package library of the A.M.A., and they will furnish him all of the literature he needs. To have a good program and a poor attendance hurts the society as much as to have a good attendance and an uninteresting and uninteresting program. It behooves the secretary to have a good program and a good attendance; to see that the members have sufficient and urgent notice. At times it may be well to import a speaker and this is not difficult for there are plenty of good speakers anxiously awaiting an invitation to visit and address you. Personally, I believe it is generally best to have local members on the program most of the time for in the preparation of the subject it will create in the essayist more personal interest in the society and the man who thoroughly prepares for the presentation of a subject will get more out of the subject than will his audience. Another thing which I believe is important is to have one or more members open the discussion on all subjects and to make this successful they should have ample notice so they will come prepared. A good discussion usually brings out more thought than the original paper. Each year your society is requested to furnish some members to appear on the program of the state society, these may be selected from what has already been presented to your society.

The collection of dues often is a difficult task but if you have an interested and active society it becomes proportionately less arduous. With these and the many other responsibilities of the secretary it behooves you to make your selection of a secretary judiciously. It is frequently wise to select a young enthusiastic member for this position and when you get a good secretary who builds up your society re-elect him and continue to re-elect him. It is often a dangerous ex-

periment to select a man for this important office who has previously never shown marked interest in the organization. One little negligent act on his part may do more to disrupt the society than can be repaired by many. I know one society that was one of the most active in the state that elected a man for secretary who was a good fellow but who had never evidenced any interest in it. He looked upon this as a personal honor and advantage and accepted it, but his new ambitions soon wained and at the end of his reign the interest in the society had also wained.

Now a word to the individual members. I believe that every one of you realize that without organization the medical profession would be in a deplorable state for not only the physicians but also for the public. You realize that the officers of the county society can do very little unless they have your individual support and co-operation. Without the county societies there will be no state societies and without the state societies there will be no national organization and every thing pertaining thereto will be chaotic.

Show me the community with four or more physicians without an active medical society and I will show you a community where the physicians are not working in harmony.

Show me a physician who says he is too busy to attend his medical society and I will show you a physician who is egotistical and not progressive.

Show me a physician who says he does not go to a medical society because they never do anything for him and I will show you a physician that never does anything for anybody.

Show me a physician who says he does not attend his medical society because it is too tiresome and I will show you a physician who finds it too tiresome to do anything else. He is the fellow who says: "Why study! The more you study the more you learn. The more you learn the more you forget, so why study. The less you study the less you learn, the less you learn the less you forget, so why study."

In conclusion I wish again to thank you for the honor you have conferred on me. If there is anything I can do to

help you build up your society I am at your command. The by-laws say that the president, as far as practical, shall visit by appointment the various sections of the state and assist the councilors in building up the county societies and making their work more practical and useful. During the remainder of my term of office I will be glad to meet with you if you will let me know when I can be of service.

R

### **Chlorosis With a Brief Report of Three Cases**

H. N. TIHEN, M.D., Wichita

Read before the Sedgwick County Medical Society, Wichita,  
April 2, 1929.

In a study of any of the anemias certain underlying factors of value and interest may be first considered.

In the first few weeks of embryonic life blood formation occurs in the entire embryonal organism in young capillaries and blood sinuses. After the first few weeks, blood formation becomes restricted to the capillaries of the blood forming organs, first in the liver, which retains this function until near or shortly after the time of birth. The liver is the chief blood forming organ in embryonic life but during the third to sixth month there is rather active erythropoiesis in the spleen and during the last half of embryonic life blood formation begins in the bone marrow, becomes more active, and shortly after birth becomes the only organ of blood formation. This function it normally retains throughout life, the active erythropoiesis occurring in the red marrow which becomes restricted to the flat bones and the ends of the long bones. Any intense need for blood formation in the adult may result in a redevelopment of blood formation in all of the places which have served as a source of blood formation in the embryo.

The mature blood cells are roughly divisible into three groups; firstly, the lymphatic structures throughout the body, secondly, the red cells, and thirdly, the granulocytes or polymorphonuclear leucocytes, these latter two groups being produced in the bone marrow and having a certain inter-relationship. In a study of the anemias the red cells are chiefly concerned, but it must be realized

that any agent seriously affecting the red cells will also affect the granulocytes to a certain extent.

The destruction of the red cells is not clearly understood. In the bone marrow, liver, spleen, and lymph glands are certain phagocytic cells constituting the system of cells recently designated as the reticulo-endothelial system. In these cells the red cells are destroyed and the hemoglobin derived from these broken down cells is broken up into two parts, one part containing the iron which is stored in these cells and used in the formation of new red cells, and a second non iron containing portion becomes bilirubin and is excreted through the liver in the bile.

From the foregoing remarks it may be seen that the bone marrow is to be regarded as an organ whose function is the production of the red cells and the polymorphonuclear leucocytes for the blood. Thus the state of the peripheral blood cells is largely only an index of the changes occurring in this organ which produces them, and all of the anemias are largely a result, not of the action of any agent on the peripheral blood but rather on the bone marrow.

The classification of anemias offers great difficulties. One or more of the three following factors are always concerned in the production of an anemia: namely, blood loss, decreased blood formation, or increased blood destruction. Since these factors are often closely interwoven a satisfactory classification based upon them can not be made. The following is a simple and rather useful clinical classification.

1. Part hemorrhagic anemias, due to bleeding from the uterus, gastrointestinal tract, lungs, urinary tract, or from a wound.

2. Pernicious anemia.

3. Chlorosis.

4. Splenic anemia.

5. Hemolytic anemias, either hereditary or acquired.

6. Aplastic anemia, which is any usual type of anemia associated with the biological failure of the bone marrow to respond to the blood deficiency by the usual increased blood formation.



7. Von Jaksch's pseudo leukemic anemia of infants.

8. Anemias secondary to other definite diseases, such as pellagra, leukemia, purpura hemorrhagica, scurvy, myxedema, hemophilia, Hodgkin's disease, and acute and chronic infectious diseases.

After this brief general survey of the field of the anemias I wish to devote the rest of this paper to a discussion of a very interesting type of anemia, namely chlorosis, with a brief report of three cases.

The term chlorosis was first used by Hippocrates and is probably derived from the greenish-yellow tint occasionally seen in a chlorotic, especially those with darker skins. The intimate connection of chlorosis with the development of the female sexual organs was noticed by the older physicians. Hoffman first gave an accurate description of the disease as a separate entity in 1731. The treatment was greatly advanced by Blaud in 1838 who insisted on the importance of a bold and methodical use of iron. Considerable clarification of the disease has been brought about by the studies of Immerman, Von Voorden, and Naegeli.

Chlorosis is an anemia marked by the following characteristics:

1. Exclusive occurrence in females.
2. First develops at puberty or within the next ten years, and has a great tendency to recur in later years.
3. Develops from endogenous and not exogenous causes.
4. Complete absence of any toxic or exogenous cause.
5. The cardinal symptom is anemia with a blood picture marked by the characteristics of insufficient blood production.
6. Marked therapeutic results from the use of iron in large doses.

The etiology of chlorosis is not clearly determined, but its exclusive occurrence in the female sex, beginning usually at the time of puberty, has long impressed medical men with its relation to ovarian function. Naegeli on the basis of much study and in close accordance with previous students of the disease advances the following theory of the development of chlorosis: "In the chlorotic subject

the ovarian function develops more slowly than normal and in an insufficient manner. This characteristic is hereditary, congenital and constitutional. The ovarian secretion at puberty exerts an influence on all other organs of the body, and as a result of the insufficient ovarian function there occurs a hormonal disturbance of the bone marrow function."

Many other theories have been proposed but any theory of etiology must be closely bound up with changes in the function of the female sex glands.

The symptoms of chlorosis are largely those due to the anemia. The onset is nearly always at puberty or shortly thereafter, rarely after 24 years of age. The patient usually first notices an increasing tendency to tiredness and exhaustion. Then occurs a slow or moderately rapid increase of the symptoms that accompany any severe anemia, namely, exhaustion, tiredness, headache, shortness of breath, and cardiac palpitation. As a rule there are menstrual disturbances, the menses usually being absent or scanty. Occasionally there may be a menorrhagia. There is increasing pallor. Edema may appear in more severe cases. Venous thrombosis occurs rather frequently. A low grade fever may be present in severe cases.

The following clinical findings are found in various degrees and combinations:

1. Pallor of the skin and mucous membranes.
2. Usually a well nourished patient.
3. No enlargement of the spleen.
4. Tendency to hypoplasia of the sexual organs.
5. Moderate grade of fever in 20 per cent of the cases.
6. Smallness of the heart and aorta due to a congenital hypoplasia of the vascular system.

The blood findings in chlorosis are those characteristic of an insufficient blood formation, namely:

1. Decrease in red cell count—in mild cases to 4,000,000—in severe cases to as low as 1,500,000.
2. A relatively greater decrease in the hemoglobin, in moderate cases to 50 per

cent; in severe cases to as low as 20 per cent.

3. A low color index as a result of the relatively greater decrease in hemoglobin.

4. A low icteric index giving a pale watery serum, in accordance with the idea that chlorosis is not due to increased blood destruction but to decreased blood formation. Likewise for the same reason there is an absence of urobilinogen in the urine.

The course of chlorosis tends to be very chronic. Many larval cases probably never develop sufficiently to be of clinical importance. Many cases last over a number of years and often are called a simple secondary anemia, but in reality are true but mild cases of chlorosis. Most cases under suitable and prolonged use of iron are brought to normal and remain near there. In other latent cases a slight strain on the blood forming organs, such as a hemorrhage at pregnancy, may precipitate a much more marked anemia. The disease occasionally ends fatally through some complication developing as a result of the anemia. Temporary improvement always occurs with large doses of iron. Venous thrombosis is not infrequent. There is always a great tendency for recurrence.

The diagnosis of chlorosis is usually based on the following points:

1. Evidence of anemia.
2. Onset at puberty.
3. No evident external cause.
4. Usually scanty or absent menses.
5. Often constitutional evidence of ovarian insufficiency, such as overgrowth of the long bones.
6. Usually a well nourished patient.
7. Absence of urobilinogen in the urine.
8. Blood findings of an anemia with a low color index.
9. Low icteric index.
10. Absence of any splenic enlargement.

In the treatment of chlorosis iron is by far the most valuable agent and is almost specific in producing immediate improvement if given in large enough doses. Inorganic iron preparations are the most suitable. Reduced iron, 10

grains four times daily, is a very satisfactory form. The amount of iron given is very important. Many cases will respond to an ordinary dose of iron but a number of cases will fail to respond for months to iron in ordinary sized doses and will make a very rapid improvement when much larger doses are used. The length of time that iron should be given is empiric, but it may be used for months at a time with advantage. Large doses of iron occasionally produce slight gastric distress but otherwise no untoward symptoms.

Only a few milligrams of iron are needed daily to replace the iron excreted and there is practically always enough iron ingested in the food for replacement purposes. There are many reasons for assuming that iron medication in chlorosis does not act by replacement of a diminished iron supply, but by stimulation of the bone marrow to more active blood formation. In mild and moderately severe cases iron alone is sufficient therapy. In very severe cases more rapid improvement may be secured by the use of additional therapeutic measures, such as bed rest, arsenic, and the use of a diet rich in vitamins, liver and meats. A therapeutic dilemma may arise when pregnancy develops in a case of severe chlorosis or when pregnancy precipitates a severe chlorosis in a latent case. In pregnancy the extra strain on the maternal bone marrow may be sufficient to hinder the usual good response to iron therapy, and the anemia may not respond very satisfactorily until after delivery. In these cases an occasional blood transfusion may be necessary to tide the patient over to term. After delivery the usual response to iron will be obtained. It is very important to separate this chlorotic type of anemia in the pregnant woman from the so-called pernicious anemia of pregnancy, as in the chlorotic anemia the pregnancy should nearly always be allowed to go to term.

In conclusion, I wish to present three cases of severe chlorosis which I have seen and have followed over a rather long period of time.

Case I. Mrs. J. F., age 23. First seen August 14, 1926, complaining of weak-



ness, pounding heart action, and pallor, and giving the following history:

At six years of age the patient became rather fat and did not have as much energy or ambition to get out and play as did the other children. At 11 or 12 years of age she grew rapidly in height. The menses began at 11 years and 11 months of age, regular, 7 days duration, fair amount of flow. At this time the patient noticed unusual exhaustion and pallor which continued persistently. First childbirth at 18 years of age, second childbirth 18 months later, with "uremic poisoning" toward the end of the pregnancy, and a third childbirth one year later. There was very little loss of blood at any of these deliveries. After the last childbirth 2 years ago the pallor and exhaustion became progressively more marked, especially so during the past two months. The menses are irregular, often 6 or 7 weeks apart, with very scanty flow. The patient has been taking "blood medicine" most of the time for the past 5 years.

Upon physical examination one saw a well nourished patient with a marked anemic pallor and when the patient stood up she presented an unusual appearance because of the greatly increased and disproportionate length of the lower half of the body, as is seen in the hypoovarian type of woman when the deficient development of the sex glands has allowed an excessive growth of the long bones. The spleen was not palpable.

The laboratory findings were as follows:

Urine—Negative.

Stools—Negative.

Wassermann—Negative.

Ewald—No free HCL. Total acidity of 16°.

The blood findings were as follows:

Red count, 2,440,000.

White count, 5,500.

Hemoglobin, 37%.

Color index, .7.

Volume index, 1.

Icteric index, 3.

Platelet count, 348,000.

Differential count, N 48%; SL, 39%; LL, 8%; M, 5%.

This patient had been taking "blood

medicine" most of the time for 5 years, undoubtedly iron in the usual dose without improvement. She was placed on large doses of iron, ferrum reductum, gr. x, t.i.d., and immediately the blood findings began to improve. One week later the readings were as follows:

Red count, 2,965,000.

White count, 4,800.

Hemoglobin, 46%.

One month later the readings were:

Red cells, 3,270,000.

White cells, 6,200.

Hemoglobin, 85%.

Seven months later the readings were:

Red cells, 3,710,000.

White cells, 7,600.

Hemoglobin, 76%.

The salient features of this case were the marked anemia beginning at puberty and aggravated by three pregnancies, the constitutional evidence of ovarian insufficiency, the irregular and scanty menses, and the rapid response to large doses of iron after 5 years of lack of improvement under ordinary sized doses.

Case II. Mrs. G. V., age 44 years. First seen March 15, 1923, complaining of exhaustion and nervousness and giving the following history: The menses did not begin until 17 years of age at which time the patient was under a doctor's care for several years because of poor health, chiefly characterized by weakness and pallor. The patient has never been very well since this time and has been up and down and has consulted many doctors because of weakness, exhaustion, and nervousness, and has never been essentially benefited. She has borne three children who are all well and healthy.

The essential physical findings were only those of a rather severe anemia. The spleen was not palpable.

The laboratory findings were as follows:

Urine, Negative.

Stools, Negative.

Various x-ray examinations: Negative.

Wassermann, Negative.

Ewald, 26° of free acid.

Red count, 3,200,000.

White count, 8,200.

Hemoglobin, 45%.

Color index, .7.  
Volume index, 1.  
Icteric index, 3.

The patient was put upon a preparation of inorganic iron, which was continued over a period of many months. She improved rapidly, the blood count returned nearly to normal, and a patient who had not been well for years rapidly returned to normal health, and has so remained.

The notable features of this case were the late beginning of the menses at 17 years of age, the onset of anemia and ill health at this time, the persistence of the anemia over a period of many years, and the maintenance of the patient in normal health by the long continued use of iron.

Case III. Mrs. M. C., age 26. First seen February 4, 1925. This case was almost a duplication of case I, except that she was first seen during a pregnancy with a hemoglobin down to 38 per cent. I was not using the large doses of iron at this time, which I believe would have made unnecessary two transfusions which were done. The patient delivered normally at term. Within a year she again became pregnant, developed a moderate anemia, which responded readily to large doses of iron and the patient again delivered normally.

Finally I would say that I believe that chlorosis is not as common as it was thought to be 50 years ago when many cases of anemia and supposed anemias were grouped under this diagnosis, but I believe that it occurs more frequently than is generally supposed. Many mild so-called simple secondary anemias in women without any evident cause are, in my opinion, mild cases of chlorosis, and many cases of anemia in women which persist after an illness or after a hemorrhage are cases in which the chlorosis was latent and only manifested itself after an extra strain on the bone marrow. All of these cases will be benefited by the long continued use of iron in large doses.

—R—

"Vell, Abie, how's business?"  
"Terrible! Even de people vot don't pay ain't buying nothing."

### Xanthelasmic Granuloma—Report of a Case

R. F. GARD, M. D.

P. N. JOHNSTONE, M.D.

From the Department of Pathology and the Department of Surgery, University of Kansas Medical School.

We have removed surgically a tumor which, both clinically and pathologically, is of considerable interest, belonging to the Xanthoma group.

#### REPORT OF CASE

G. R., a white man, 58 years old, was first seen December 5, 1928, in the dispensary.

Complaint—Ulcerating growth on right elbow and growth on left knee.

Family History—No similar growths in other members of family.

Past History—No previous injury to elbow but was cut by an axe at site of growth on left knee.

Present Illness—For 50 years the patient has had soft yellow patches on the



A. Tumor on the left knee similar to the excised growth from the right elbow.

lower and upper eye-lids. As near as he now remembers, the growths on the right elbow and the left knee first began about 38 years ago. They slowly grew to their



present size and then stopped growing. No apparent change has occurred in many years. At times he has bruised them and they have bled. About two weeks ago he bruised the growth on the right elbow and an ulcer formed which has remained.

**Physical Examination**—Apparently a normally developed man. Extensive Xanthelasmic patches are present over the lids of both eyes. Over the right elbow there is a growth about 1½ inches in diameter which protrudes and which is ulcerated. It is of an orange-yellow color. Over the left knee there is a similar growth which is somewhat larger, however. The cholesterin content of the blood was determined on December 20, 1928, and was 269 milligrams per hundred cubic centimeters, a normal figure.

On December 5, 1928, the growth was excised under local anesthesia, an elliptical excision being made. The arm was put up in extension so as to bring the edges of the wound together. A slight wound infection occurred which was attributed to the ulcer. But in twenty days time the wound was healed and the patient had practically full flexion of the arm.

We had arranged to remove the growth on the left knee at an early date; and at the same time make further studies of this patient, but he failed to return to the clinic at the appointed time and unfortunately has not been heard of since.

The excised tumor consists of a large elevated ulcerated growth of the skin with a flattened top and an unusually broad pedicle which measures 2 to 3 cms. in diameter. The tumor mass measures 4.5 by 4 cms. and extends 1.5 cms. above the surrounding surface. On one side it shows a sharply defined flattened ulcerated area 1 by 2 cms. limited by overhanging epithelial edges. Over the surface of the tumor the epidermis is smoothed out and glistening. The tissue cuts with difficulty and the cut surface has a peculiar mottled orange-yellow color characteristic of xanthomatous tissue, and shows numerous fibrous septa extending from the skin throughout the mass dividing it into small irregular, rather poorly defined lobules.

Histologically the tissue shows masses of large cells with abundant finely vacuolated cytoplasm and small pyknotic nuclei, the so-called "lipoid" or "foamy" cells, separated by bands of partly hyalinized fibrous tissue. The foamy cells are readily stained with Scharlach "R", and with polarized light they contain refractile globules evidently cholesterin esters. In many areas there are large



B. Typical area showing foamy cells, clefts left by cholesterin crystals, fibrosis and giant cell reaction (x125)

and smaller cleft like spaces from which cholesterin crystals have apparently been dissolved. Methylene blue stain of a frozen section shows beautiful glistening silvery crystals distributed throughout different areas and Golodetz reaction gives them a blue and then dark green color typical of cholesterin. About some of these cleft like spaces there are large irregular shaped multinucleated giant cells of the foreign body type. There is considerable fibrosis throughout the tissue and much of it shows hyaline change.

Small round cells, apparently lymphoid cells, are diffusely distributed throughout the section. In some places they appear in foci or in perivascular arrangement.

Xanthomata are quite common, frequently arising from tendon sheaths or joint capsules and particularly being found in the upper eyelid or anywhere in the skin. Such tumors arise from the nasal and pharyngeal mucosa, the endocardium, the pancreas and the choroid plexus. <sup>1</sup>The cutaneous types are frequently associated with diabetes and may be connected with hypercholesterinemia as in disorders of fat metabolism. It has been shown that they are not all a result of an abnormal increase in blood cholesterol and many xanthomata show an excess of fatty substance other than cholesterol. <sup>2</sup>In this instance there are unusual masses of cholesterol crystals and nests of foamy cells but there is no alteration of blood cholesterol.

This type of tumor growth is certainly benign and there is even question as to whether it is neoplastic. <sup>3</sup>The giant cells seen among and about the cholesterol crystals are typically of the foreign body type. The simultaneous multiple origin is against their being neoplastic and everything seen in their structure is often seen in chronic granulation tissue. These growths often show small round cell and perivascular infiltration suggesting a chronic inflammatory or granulomatous reaction. <sup>4</sup>The poor blood supply and dense fibrosis will account for the failure of the ulcerated area to heal.

Because of the slow development, the relative benignancy, the similarity to chronic inflammatory tissue and the deposition of masses of cholesterol crystals we are inclined to look upon these lesions as xanthelasmic granulomata.

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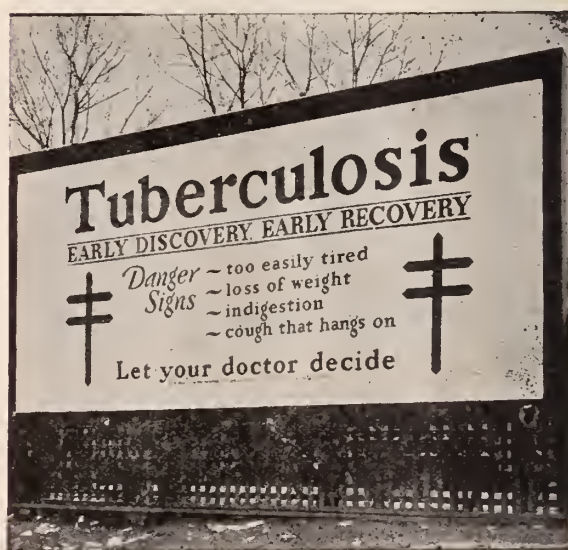
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#### TUBERCULOSIS ABSTRACTS

Stephen A. Douglass who has back of him a long record of service as a clinician specializing in tuberculosis and who is now superintendent of Sunnyside Sanatorium at Indianapolis, contributes this number. As a sanatorium physician, he has observed that, while diagnoses of tuberculosis are being made by general practitioners more promptly than in the beginning of his career, too few cases are discovered while yet in the "minimal" stage. The majority of patients admitted to sanatoria or sent to distant health resorts are in the "advanced" stage. Failure to discover the disease early is, in his opinion, the chief factor in compelling an unfavorable prognosis.

#### Symptomatology of Tuberculosis

Morton, two hundred years ago, speaking of tuberculosis, said: "There is no other malady which assumes so many protean forms and which is attended by such diversified symptoms and complications." The incipency of the disease



Billboard poster listing danger signs, used during Early Diagnosis, April, 1929

is often manifested only by a train of vague symptoms, sometimes extending over a long period of time. A painstaking consideration of these early symptoms, with a view of accounting for their origin, together with the evidence elicited



by physical examination, often establish an early diagnosis.

Sanatorium experience shows that careful study of the patient has frequently been omitted, that the examinations had not been complete, and that important aspects of the history were overlooked even when the symptoms are those commonly observed in pulmonary tuberculosis. Sanatorium physicians frequently see patients in whose lungs little or nothing is found on physical examination but who constitutionally show clear and definite evidence of tuberculous disease as proved by the subsequent course of events. Dependence upon the physical findings and the sputum report alone will usually defeat a timely diagnosis.

### **Symptoms Local and General**

Many diseases have a typical onset. The diagnosis of lobar pneumonia, for example, can frequently be made with a fair degree of certainty from a few key symptoms. But in the case of pulmonary tuberculosis, this is impossible; there is probably no other disease which may begin in such widely divergent ways or which present such a variable symptom-complex. The reason for this is that the symptoms of pulmonary tuberculosis are both local, having their origin in the respiratory organs, and general, due to the effects of the disease on the system as a whole. The onset may be characterized by the exaggeration of any one of the many possible symptoms. Because there is no typical mode of onset, we must be on the lookout for pulmonary tuberculosis in patients who consult us for symptoms which frequently seem to have no apparent connection with the lungs.

For many years, it has been taught that the pathognomonic group of symptoms that spell pulmonary tuberculosis were cough, expectoration with bacilli, hemoptysis, fever, chills, night sweats, fatigue, and loss of weight. But by the time such classical symptoms present themselves, the local lesion is often moderately advanced, or advanced. Early and favorable cases present few of these symptoms. By this time, of course, a definite and conclusive diagnosis can be made; it demands little diagnostic skill

and it comes too late for the patient to receive the maximum benefits that he should derive from modern means of treatment. A clinical recovery at this time may sometimes be attained, but the "cure" is likely to fall short of complete restoration of function and full working capacity. The symptom group or complex which we were taught as indicating early tuberculosis is now interpreted as meaning in a large measure advanced tuberculosis.

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### **Onset Usually Gradual**

In the majority of cases, pulmonary tuberculosis develops slowly and the onset is gradual, so that it is impossible to determine the exact date at which the patient first noticed that he was ill. Even in those patients in whom some one symptom has developed suddenly, careful questioning will frequently reveal a preceding period of indefinite malaise or slight cough which has passed unnoticed. While this slow and gradual onset is characteristic for the majority of cases, it occasionally happens that the onset is sudden and acute, the symptoms appearing without warning in a previously apparently healthy individual.

Pottenger states that, if a careful history of all patients who are suffering from the early symptoms of tuberculosis were taken and carefully appraised, the disease would be suspected in almost all, for in nearly every instance there is a history of one or more of the following symptoms: malaise, loss of strength and endurance, altered appetite, decline in weight, increasing nervousness, vague pains throughout the chest, acute pleural pains, slight tendency to cough or to become short of breath on exertion, repeated "colds" or the spitting of blood. These symptoms should invariably direct attention to the chest. If, in addition, there are a slight rise in temperature and a pulse easily affected by exertion, tuberculosis should be ruled out before any other diagnosis is made. He concludes that the "most important point in the diagnosis of tuberculosis is to know when to suspect it."

### Diagnosis Often Delayed

It has been shown that patients present themselves to their physician with definite complaints two to twelve months before they are diagnosed as having pulmonary tuberculosis. The complaints are apparently not significant enough to warrant a diagnosis of any disease and the patient is many times treated symptomatically for conditions such as bronchitis, influenza, colds, pleurisy, unresolved pneumonia, nervous breakdown, nervousness, thyroid disease, "spots" on lung, throat trouble, asthma, anemia, catarrh, laryngitis, intercostal neuralgia, ulcer of stomach, gastritis, weak lungs, "cigarette" cough, stomach cough, neurasthenia, sinusitis, "female" trouble and "heart trouble."

To stamp a person as actively tuberculous is a grave matter; to advise such a person to give up his work, to leave his home and family, if home conditions are unsuitable or unsatisfactory for treatment, and to go to a sanatorium or distant health resort is a serious matter. On the other hand, failure to recognize and treat tuberculosis in the early or incipient stage usually spells tragedy.

S. A. D.

### Informing the Public

The skill of the physician in diagnosing tuberculosis early is of little avail unless



Scene from motion picture, "Consequences" for lay audiences

the patients present themselves early. A special study of 1,499 sanatorium patients made by the National Tuberculosis Association showed that about 57 per

cent did not consult a physician until at least one month had elapsed from the time the first symptom appeared. This corroborates the general observation that patients delay too long before seeking medical advice. To help correct this failing, tuberculosis associations endeavor to acquaint the general public with the early danger signs of the disease. This is done by means of pamphlets, newspaper articles, posters, lectures, and motion pictures. Results of such educational campaigns show that many people are stimulated by them to "let the doctor decide" whether or not the symptoms they have experienced indicate tuberculosis. —Ed.

—————R—————

A senator was approached during a political campaign with this question. "Senator, I admire you and your policies a great deal but there is one question I must ask before I decide to vote for you. Are you dry?"

Senator: "Before answering I want to ask you a question—Is that an inquiry or an invitation?"

✧ ✧ ✧

"Statistics show," declared the bespectacled woman lecturer, "that the modern, common-sense style of woman's dress has reduced accidents on the streets by 50 per cent."

"Why not do away with accidents altogether?"

✧ ✧ ✧

pipied a masculin voice from the rear of the hall.

Mr. Dubb (at musical): "She has quite a large repertoire, hasn't she?"

Mrs. Dubb: "Yes, and that dress she has on makes it look all the worse."

✧ ✧ ✧

He—"Do you care for dancing?"

She—"No."

He—"Why not?"

She—"It's merely hugging set to music."

He—"Well, what is there about that you don't like?"

She—"The music."

✧ ✧ ✧

Father was feeling critical toward his son. "Boy," said he, "why don't you get out and find a job? When I was your age I was working fifteen hours a day for three bucks a week and at the end of five years I owned the store. Let that stand as an example to you, son!"

The son reflected and then replied, "You can't do that nowadays, dad, they all got cash registers!"

✧ ✧ ✧

Fair Maid: "Oh, sir, what kind of an officer are you?"

Officer: "I'm a naval surgeon."

Fair Maid: "Goodness, how you doctors do specialize."



# THE JOURNAL

of the

## Kansas Medical Society

W. E. McVEY, M. D. - - Editor

ASSOCIATE EDITORS—C. W. REYNOLDS, L. B. SPAKE, P. S. MITCHELL, O. P. DAVIS, J. T. AXTELL, C. S. EDGERTON, C. C. STILLMAN, ALFRED O'DONNELL, C. S. KENNEY, I. B. PARKER, C. H. EWING, W. F. FEE.

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### THE ANNUAL MEETING

For the information of the eleven-hundred-fifty members who for various reasons failed to get to Salina for the annual meeting one may say they missed something worth while. If some of these had been in attendance at the morning session on the first day they would have heard the address by Dr. Neilson of St. Louis and the address by Dr. Kreuscher of Chicago. Because these gentlemen were compelled to leave early in the afternoon they were advanced on the program. Some who arrived in time for the afternoon session, expecting to hear Dr. Kreuscher, were disappointed.

A considerable number of the three-hundred-fifty who attended the meeting arrived on the last day, presumably expecting to see the Canti film which according to the program was to be shown then, but the Canti film was shown in the afternoon of the second day.

The Masonic Temple proved to be an excellent meeting place. There was plenty of room for everything. The auditorium was large and pleasant and its acoustic properties fairly good. And yet

there were several speakers who could only be heard by those in the first two or three rows of seats. Men who talk in monotonous with their backs to the audience are hard to understand at any time and in any place. One of the members called attention to the fact that several of the speakers could not be heard, but it did no apparent good.

There are a good many men in our profession who know how to write a scientific paper, who know what to put in it to make it interesting, and who know what should be said in the discussion of such papers, but are not accustomed to public speaking and don't know how to make their voices carry to the audience. Some of the best papers on the program may be submitted by men in that class. The eleven-hundred-fifty members who did not attend the annual meeting, but who will have an opportunity to read these papers in the Journal, will probably feel that these men should not be discouraged from appearing on the program because of their lack of training in public speaking. In order that the three-hundred-fifty who did attend the meeting might be able to discuss these papers intelligently it would have been a good idea to have the secretary or some one with a good voice read them for the authors. Why would it not be a good plan to appoint a reader at each annual meeting, just for the purpose of reading for those who fail to make themselves heard?

Occasionally there is one who can put on an illustrated medical lecture successfully, but they are few and far between. In the first place lantern pictures require a good deal of explanation to be worth while and twenty minutes is not long enough to describe more than a few pictures in connection with a paper. Charts which appear to be coming into fashion again are usually unintelligible when

thrown on the screen, most of them being so prepared that the projected image cannot be read by a majority of the audience. A few years ago there was a fad for graphs and every lecture and published paper was accompanied by from one to twenty or more. They are rarely seen now, but charts and projected pictures were much in evidence at the Salina meeting. A few good pictures which really illustrate some particular point in the text of the paper may be worth while, but the majority of those usually shown don't tell the audience as much as would one or two carefully formulated sentences made up of carefully selected plain understandable English words.

There has rarely been a meeting of the Society during the past twenty-five years when there was no conflict between the scientific program and the meetings of the House of Delegates. No matter how the program is planned to avoid such conflict it does not succeed. It seldom happens that the House of Delegates completes its business in the time allotted to it. The common explanation for this is that there are too many delegates who want to talk and some who talk too much. But delegates to these meetings have a right to talk and are expected to talk on the matters of business that are before the house. If they failed to express their views or the views of the members of their county units they would certainly fail in their duty. Free discussion of all subjects before the House of Delegates must not be restricted. Of course there are occasions when a lot of time is consumed by long discussions about something entirely foreign to the question before the house, or about various things when there is no question before the house, but that is the fault of the presiding officer. Parliamentary rules were formulated for the

purpose of expediting the proceedings of such bodies as our House of Delegates and lack of observance of these rules is responsible for a great deal of wasted time. And yet it seems that our delegates resent any attempt to enforce observance of these rules either by the presiding officer or other members of the house. Even when the presiding officer is experienced in parliamentary usage he hesitates to enforce the rules in face of the obvious displeasure of the members.

One who has observed the proceedings of the House of Delegates during the past few years would probably suggest that considerable time might be saved if the delegates and the officers familiarized themselves with the provisions of our constitution and by-laws. It may be all right to ignore these in some measure, in some instances, but failure to observe them strictly in other instances may cause considerable confusion as well as loss of time.

The constitution and by-laws as amended up to that time were published in the Journal, October, 1926. They will probably be published again, as amended to date, sometime this year.

The experience of the past twenty-five meetings, however, suggests that no matter how carefully the program is planned, no matter how expert and experienced the presiding officer and no matter how well drilled the committee chairmen and the various sponsors for the business program, there will be more or less conflict between the general sessions and the meetings of the House of Delegates, unless, as has happened on one or two occasions, the meetings of the House of Delegates were rushed through with such haste that very important affairs of the Society were overlooked or neglected.

It was suggested some years ago that the House of Delegates should meet and



transact whatever business the interests of the Society required at some time prior to the annual meeting, preferably some months prior thereto. There were numerous objections to such a plan, but none of the objectors have offered a better solution for the problem. It is important that the scientific program should not be hindered and that those who take part in it should be encouraged by undivided attention. It is also important that the business affairs of the Society shall be given the consideration they deserve and that the delegates shall not be unduly hurried in their action by lack of time.

The secretary's report of the proceedings of the House of Delegates appears in this number of the Journal, but for the benefit of the eleven-hundred-fifty members not in attendance some comments may be appropriate. Sometimes it is difficult to interpret the actions of the delegates, to determine the various points of view from which their conclusions are drawn, but it too frequently happens that they are supplied with too little information, or too much misinformation, on the questions they are expected to decide. At this session, however, they seemed to be quite well informed about the matters before them and apparently were well decided as to the actions to take.

At the first meeting of the House of Delegates, after the report from the Bureau of Public Relations had been read a motion that the work of the committee of the Bureau of Public Relations be commended and that the Bureau be continued was carried by practically a two-thirds majority. And during this same session the resolution to amend the Constitution so that the annual assessment could be increased was adopted and a motion to increase the annual dues to seven dollars was also carried. One might naturally presume there was some rela-

tion between the action of the delegates in continuing the Bureau and raising the dues, since the amount of dues was already sufficient to cover the other expenses of the Society. However, at the last meeting of the House of Delegates it was explained that the funds on hand would not permit an appropriation for the Bureau equal to that of last year and a motion to limit its expenses to one hundred dollars per month was carried. Of course the delegates did not realize that every function of the Bureau implies work and that two-thirds of the cost of operation during the past two years was for clerical help and that it is very seldom that efficient clerical help can be secured on a half time basis. The amount of postage used and the amount of stationery used can be easily reduced and thereby the amount of work is also reduced but it is not so easy to get some one to do half the work at half the price. The plans outlined for the Bureau will have to be revised but every effort will be made to accomplish the purpose for which it was founded.

In this connection it may be well to state that for the past two years most of the efforts of the Bureau have been directed toward the legislative campaign but for the coming year, at least, efforts will be made to secure more publicity for scientific medicine, to arrange for more public meetings, and to further medical organization in the state.

The delegates showed excellent judgment in the selection of officers for the ensuing terms. Those who had already proved faithful and efficient were re-elected as they deserved and as the best interests of the Society required.

The president in his address had suggested the possible economic advantages of combining the offices of secretary and editor with a full time man to perform the duties of both. With this in the

minds of a number of the delegates, no doubt, the present editor was placed in nomination for secretary. But since he received but fifteen votes it is evident that the delegates were not strongly impressed with the idea of combining these duties, or that the present editor is not a wise selection for such a position. This is not the time to discuss the merits of such a plan, though one may say that the combined salaries of the secretary and editor would not pay for the full time of a competent man.

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### CORRESPONDENCE

#### Impressions from the Salina State Medical Meeting

The State Meetings are held in halls that are too large, with the result that it is difficult to hear the speaker.

Nothing is more tiresome than two or three hours of nervous tension due to straining one's ears to hear. Scientific papers must be heard distinctly and easily to be appreciated and properly evaluated. An assembly hall should be well ventilated and lighted, but only large enough to accommodate comfortably the anticipated attendance. Large halls usually have poor acoustics and those in attendance soon become weary and disgusted, with the result that they either doze or retire.

Just why it is thought necessary to hold a state meeting in an assembly hall with a seating capacity of one to two thousand, when the attendance never surpasses five hundred, is to me an enigma. The solution that suggests itself is that a big state meeting must have a big assembly room, hence acoustics, light and ventilation are sacrificed for size.

In as much as the expense of entertaining the state meeting is not now placed upon the shoulders of a local county society, why is it not practical and desirable to try holding a few annual meetings in some of the centrally located smaller cities of the state?

In this automobile age it need not be a railroad center, in fact, the farther it

is from railroads the more inviting it should be. Sufficient hotel accommodations could easily be arranged in cities of even less than two thousand. The principal entertainment afforded is golf and fine courses are available in a majority of the smaller cities.

The reason such cities have not invited the meeting was because of the expense involved and since such expense is now provided for by the State Society it is practical for any local society to entertain. There would be less to detract from the real purpose of the meeting, the reading and discussion of scientific papers, and in consequence better attendance at the sessions. A real holiday in the great open spaces would be provided and points of interest visited in surrounding territory which should appeal especially to the city physician.

J. T. SCOTT, M.D., St. John

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### SOCIETIES

#### CLAY COUNTY SOCIETY

The May meeting of the Clay County Medical Society was held at the Clay Center Hospital, May 22, 1929. This meeting was very well attended, there being 18 doctors present. The program was furnished by Dr. Charles C. Demmie of Kansas City, Mo., and consisted of a clinic in skin diseases and a lecture on "Eruption Caused by the Administration of Drugs." A great number of patients were shown at the clinic and the evening was both enjoyable and profitable to everyone present.

X. OLSEN, Secretary.

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#### MISSOURI-KANSAS NEUROPSYCHIATRIC SOCIETY

The spring meeting of the Missouri-Kansas Neuropsychiatric Society occurred at the University Club, Kansas City, Mo., on April 29, 1929. The program was, in the main, clinical. This included the following case presentations one of juvenile paresis, with results of treatment, by Dr. A. L. Skoog; one of probable sixth nerve neoplasm, by Dr. B. Landis Elliott; one of spastic diplegia, by Dr. E. T. Gibson. Dr. Skoog then gave a resume of certain interesting phases of his recent stay in Europe. The



next meeting of the Society will be held in the fall, at the time of the annual Fall Clinical Conference.

FORREST N. ANDERSON, M.D., Secy.

#### FRANKLIN COUNTY SOCIETY

The regular monthly meeting of the Franklin County Medical Association, for the month of April was held Tuesday evening the 30th, at the Nelson Hotel at Ottawa.

Its proceedings began with a dinner at 6:30, partaking of which was a representative group of local physicians, together with members of the Allen, Douglas and Marion County associations.

The honor guest of the evening was Dr. Arthur E. Hertzler of Halstead, Kansas.

The program opened with a goiter clinic, at which time some cases of this malady were presented by local physicians and discussed at some length by Dr. Hertzler.

In this connection the surgeon revealed quite an innovation in his ideas of the etiology of goiter. He discussed the prevalent belief in iodine insufficiency as the cause of this increasing malady, commenting freely on "iodine salt" and the efforts of municipalities to supply drinking water of higher iodine content, and placing the cause of goiter in the class of moot questions.

Among the out of town guests present were Drs. J. B. Henry, V. M. Auchard, R. B. Hutchinson, W. O. Nelson, W. C. McConnell, J. R. Bechtel, G. W. Jones, R. H. Edmiston and H. L. Chambers of Lawrence; Drs. O. L. Cox, Orestes L. Garlinghouse, J. T. Ried, and P. S. Mitchell of Iola; Dr. G. G. Kreeger, Richmond; Dr. H. B. Johnson of Pomona; Dr. G. K. Jones of Williamsburg; Dr. Noble E. Naylor of Wellsville; Dr. B. F. Eye of Rantoul, and among the local physicians were: Dr. W. J. Scott, President; Drs. Josaphyne E. Davis, W. L. Jacobus, H. W. Gilley, Lerton V. Dawson, John A. Dyer, J. R. Scott, P. R. Young, Vilas E. Lawrence, H. E. Markham, H. L. Kennedy, Dr. Wheeler, Dentist, and Dr. George W. Davis, Secretary of the Franklin County Society.

A short business session of the local

society was held during recess in the program, and Dr. G. W. Davis was elected delegate, and Dr. L. V. Dawson alternate to the State Society meeting at Salina.

Delegate was instructed to vote in favor of raising the dues to the State Society at the coming session.

Program was resumed with Dr. Hertzler presenting a lecture, "A Country Doctor Takes a Slant at Stomach Troubles."

A remarkable plain spoken review of the past, present and future outlook of medicine, surgery and allied treatments of disorders of the stomach.

Very general discussion followed showing much interest in this subject.

#### STAFFORD COUNTY SOCIETY

Society met in St. John Thursday evening, May 16th. The guests were Dr. Bernstorff, Pratt; Dr. Ireland, Coats; Dr. Embry, Great Bend; Dr. McGill, Hoisington. This was a public meeting and twenty-five laymen and wives responded to the invitation.

Dr. Ireland read a very interesting paper on Encephalitis which was listened to with marked interest despite its necessarily technical character. Following him Dr. Embry read on The History of Anesthetics and concluded with the statement that he would rather have been the discoverer of anesthesia than of any other discovery in the entire history of humanity. This paper was especially adapted to a non-medical assembly and pleased all present.

In conclusion Dr. J. T. Scott read a review on a book entitled Primitive Physic, written by John Wesley, the great reformer, in 1764. By chance Dr. Scott came into possession of this book and it was exhibited at this meeting. Appended to an introduction and postscript is a collection of recipes for many distempers or so-called common diseases, many of which are credited to prominent physicians of that day and earlier, such as Sydenham, Dover, Cheyne and Galen. Blank pages are interspersed through the book and many later recipes are written in ink upon them, which are still quite legible.

The author states that originally

physic was wholly founded on experiment, but in time men of philosophical turn began to inquire why such medicines wrought such effects. As theories increased simple medicines were more and more disregarded and disused. In the room of these new ones more difficult to be applied were introduced and rules for their application and medical books were multiplied 'till at length physic became an abstruse science. "I have only consulted herein experience, common sense and the common interest of mankind. Who would not wish to have a physician always in his house and one that attends without fee or reward, to be able to prescribe to his family as well as himself? At the request of many persons I have added plain definitions of most distempers; not indeed accurate or philosophical definitions but such as are suited to men of ordinary capacities and as may just enable them, in common, simple cases, to distinguish one disease from another. In uncommon or complicated diseases, or where life is more immediately in danger I again advise every man, without delay, to apply to a physician that fears God."

The conclusion of the postscript bears the address and date of Bristol, Oct. 16, 1755.

J. T. Scott, Secretary.

#### SEDGWICK COUNTY SOCIETY

The following is a synopsis of our meetings for April and May:

April the 2nd, Dr. H. Tihen presented a paper on "Chlorosis" and Dr. F. J. McEwen presented one on "Pernicious Anaemia." April the 16th Dr. Frank Porter Miller of Los Angeles presented a paper on "The Treatment of Pulmonary Cavitation" and illustrated it by showing many slides.

May the 7th the State Medical Society met at Salina, consequently we had no local meeting. On the evening of May the 21st, the following symposium was given: "Skin and Mucous Membrane Manifestations of Late and Latent Syphilis," by Dr. E. A. Pickens; "Late Manifestations of Syphilis of the Brain and Spinal Cord," by Dr. H. C. Curtis; "The Interpretation of the Blood Wassermann

Reaction in the Diagnosis of Latent and Late Syphilis," by Dr. E. H. Terrill.

The officers of the Society for 1930 were elected, and are as follows: President, Dr. C. H. Briggs; Vice President, Dr. A. E. Gardner; Secretary, Dr. Frances H. Schiltz; Treasurer, Dr. C. D. McKeown.

FRANCES H. SCHILTZ, Secretary.

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#### Proceedings of the Seventy-First Anniversary Meeting of the Kansas Medical Society, Held at Salina, Kansas, May 7, 8, 9, 1929

##### MEETING OF THE HOUSE OF DELEGATES

The House of Delegates met in the Shrine Parlor of the Masonic Temple at 5:00 p. m. The meeting was called to order by the president, Dr. L. F. Barney. The minutes of the last meeting were, on motion, dispensed with.

##### SECRETARY'S REPORT

To the House of Delegates of the Kansas Medical Society:

I desire to submit the following report for the year ending May 1, 1929.

##### FINANCIAL STATEMENT

Balance on hand May 1, 1928:		
Medical Defense .....	\$6,889.98	
General Fund .....	\$7,692.39	
		\$14,582.37
Cash received from all sources for the year ending May 1, 1929:		
Dues from members .....	\$7,260.00	
Check from Editor .....	656.51	
Interest reported by treasurer....	161.25	8,077.76
		\$22,660.13
Expended for the year ending May, 1929:		
Medical Defense .....	\$2,475.03	
General Fund .....	6,780.17	
Total Expenditures .....		\$ 9,255.20
Balance on hand May 1, 1929...		\$13,404.93
Standing of funds May 1, 1929:		
Medical Defense .....	\$7,318.95	
General Fund .....	\$6,085.98	
		\$13,404.93

There is nothing startling to report as to the condition of the Kansas Medical Society. It is a prosperous organization as you all well realize, destined to live for unlimited years, shedding glory and honor on the medical profession. The membership of the society remains practically the same year after year—around the 1500 mark—one year there will be a small increase and the next probably a decrease. This is a natural outcome of the changing and shifting of conditions which affect the lives of all men, be they of the profession or laity—death, removal from one location or state to an-



other, retirement from practice, perhaps misfortune.

In looking back over our records we find that 1926 was the banner year of the Kansas Medical Society with a membership of 1526 on December 31st of that year. On May 1, 1927, there were 1375 paid up members, on May 1st, 1928, 1429, and at the present time we have a paid up membership of 1412 with 145 delinquents. If those 145 delinquents would only remit, 1929 would hit the high mark for membership. We are hoping they will surrender very shortly.

In 1925 according to the American Medical Association Directory there were 2364 physicians in Kansas: in 1927 according to this same authority there were but 2296 physicians in the state, a decrease of 68 in two years. I might mention right here that the population of our state was increased by 59,000 during the same period of time. I'll leave it to you to figure out how many additional patients each doctor is destined to attend. But the fact that the number of doctors in the state decreases rather than increases and yet our society maintains practically the same membership year after year, seems to me a just cause for congratulations to the Kansas Medical Society. I feel that this condition is due largely to the activities of the local secretaries and I wish "to give honor where honor is due." I cannot remember a time during my service as secretary when the call for contributions to the program has met with quite the immediate response as has been the case this year. I appreciate this so heartily and thank each secretary for his co-operation in the preparation of the program. And it is with the same measure of gratitude that I extend my thanks to the members who have furnished the material that has made this good program possible. Words are inadequate to really express my appreciation to our president, Dr. L. F. Barney, during the past year for his ever willing help and good counsel in all matters concerning the Kansas Medical Society. But I have valued his assistance and do give him my grateful thanks.

To our honored guests who have so materially added to the success of this

meeting by their valued contributions to the program, I wish to express myself and for the Kansas Medical Society at large, our appreciation and grateful thanks.

J. F. HASSIG, Secretary.

Report accepted and filed.

#### TREASURER'S REPORT

To the House of Delegates of the Kansas Medical Society.

As treasurer of the Kansas Medical Society I desire to make the following report for the year ending April 30, 1929, and beginning May 1, 1928.

Cash balance on hand May 1, 1928.....	\$14,582.37
Cash balance on hand May 1, 1929.....	13,404.93
Liberty bonds .....	\$6,000.00
Cash .....	7,404.93
December 20 turned over by secretary to me as treasurer .....	1,006.51
May 1, 1929 turned over by secretary to me as treasurer .....	6,910.00
	<hr/>
	\$7,916.51
Interest received during the year:	
May 30, 1928 .....	\$ 50.63
Dec. 17, 1928 .....	50.62
Feb. 6, 1929 (on C. D.) .....	60.00
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	\$ 161.25

February 6, 1928, \$2,000.00 C. D. converted into cash. So that at the present time of the surplus the society had on hand May 1, 1928, \$2,000.00 was invested in C. D., \$6,000.00 in Liberty Bonds and at the present time the society has the \$6,000.00 in Liberty Bonds which with the cash balance of \$7,404.93, make up the cash on hand May 1, 1929, amounting to \$13,404.93. Of this amount the Defense Fund should be credited with the following amount, \$7,318.95, leaving in the General Fund \$6,085.98.

Total amount received from the secretary for the year, \$7,916.51.

Interest received, \$161.25.

Realized from sale of C. D., \$2,000.00.

The following amount was expended by Defense Fund, \$2,475.03.

The following amount was expended by General Fund, \$6,780.17, made up as follows:

Dr. W. E. McVey—Bureau of Public Relations \$200.00 per month .....	\$2,400.00
Dr. W. E. McVey—Publishing the Journal of the Kansas Medical Society .....	2,000.00
Dec. 20, 1928, to secretary, Dr. J. F. Hassig— Stenographer's salary .....	\$525.00
Stamps .....	40.00
Miscellaneous .....	45.27
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	\$610.27
May 12, 1928, to secretary, Dr. J. F. Hassig for salary .....	\$600.00
May 12, 1928, to secretary, Dr. J. F. Hassig, stenographer's sal. 4 mos....	300.00

May 12, 1928, to secretary, Dr. J. F. Hassig, mis.—stamps, telephone, supplies, etc. ....	100.55	
Total to secretary .....	\$1,610.82	
May 11, 1928, Jean Elliott, assisting with registration .....	\$ 10.00	
May 11, 1928, Hotel Lassen—Guest's Luncheon, County secretaries and stenographer .....	54.45	
<b>Guests</b>		
Railway fare and travel expenses—		
May 12, 1928, Dr. H. Schwartz.....	\$ 70.00	
May 12, 1928, Dr. John Green.....	56.58	
May 12, 1928, Dr. John P. Lord.....	13.50	
May 12, 1928, Dr. Elmer Liggett expense in connection with Necrology Report. ....	11.33	
Oct. 1, 1928, Evans Press—letter heads and envelopes for Dr. L. F. Barney..	6.00	
		\$221.86
Jan. 4, 1929, Mid-Winter Meeting—		
Dr. John A. Dillon .....	\$ 37.05	
Dr. L. F. Barney .....	8.00	
Dr. Geo. M. Gray .....	8.00	
Dr. L. B. Spake .....	8.00	
Dr. P. S. Mitchell .....	14.60	
Dr. O. P. Davis .....	5.00	
Dr. J. T. Axtell .....	20.70	
Dr. Alfred O'Donnell .....	10.00	
Dr. I. B. Parker .....	18.00	
Dr. C. H. Ewing .....	27.38	
Dr. W. F. Fee .....	41.00	
Dr. W. S. Lindsay .....	5.00	
Dr. Earle G. Brown .....	5.00	
Dr. C. W. Reynolds .....	7.00	
Total expense .....	\$214.73	
Jan. 4, 1929, to American Medical Assoc. for membership cards .....	\$ 13.40	
Mar. 9, 1929, Kansas Bankers Assoc. (bonds for secy. and treas.) .....	7.50	
Apr. 23, 1929, St. Louis Button Company. ....	19.36	
Apr. 24, 1929, Evans Press (for programs for state meeting) .....	92.50	
		\$132.76

Report accepted and filed.

A motion was regularly made and seconded that the reports of the Councillors' not be read in the meeting but be published with the minutes in the Journal. The motion carried.

#### COUNCILLORS' REPORTS

*First District*, Dr. C. W. Reynolds, Councillor, Holton, gave the following report:

Members of the Council and House of Delegates, I submit the following report of the First District for the past year.

With some slight exceptions this District has kept in an active condition. Owing to the few doctors in Pottawatomie and Jefferson counties and the convenience to hold membership in the adjoining counties, these counties maintain no societies. No report has been received from Doniphan or Marshall counties since last year but at that time they were in very satisfactory condition. Atchison, Brown, Nemaha and Riley counties report enthusiastic societies. My own county of Jackson has few members

and few meetings but we believe in our society.

C. W. REYNOLDS, Councillor.

*Second District*, Dr. L. B. Spake, Councillor, Kansas City, gave the following report:

As Councillor of the second district, we beg to submit the following report:

The majority of our societies are having regular meetings, or are co-operating with adjoining societies in their meeting.

Johnson County had a very interesting meeting in October, where the adjoining societies were invited. About fifty doctors being present. The meeting was held at the State School for Deaf, and they had an interesting and instructive afternoon and evening meeting. Johnson County should be complimented on their work.

LAVERNE B. SPAKE, Councillor.

*Third District*, Dr. P. S. Mitchell, Councillor, Iola, gave the following report:

I hereby submit the Annual Report for the Third Councillor District.

No complaints have reached your Councillor and everything seems to be working harmoniously.

Due probably to good roads and facility for cars there continues to be a persistent tendency to more segregated and centralized larger meetings of associated adjoining counties. It seems to me this is a healthy tendency.

P. S. MITCHELL, Councillor.

*Fourth District*, Dr. O. P. Davis, Councillor, Topeka, gave the following report:

To the House of Delegates: This District is composed of seven counties, viz., Shawnee, Wabaunsee, Geary, Osage, Morris, Lyon and Chase. But there are only two county societies in the District, viz., Shawnee and Lyon. These two societies should not really be given the names of the counties where they have their respective seats, as they are in fact multi-county societies. But experience is gradually eliminating the small and ineffective organizations which we used to find in the several counties and combining their membership in fewer and larger and more serviceable bodies. The constantly improving facilities of transportation have made this plan increas-



ingly more satisfactory. But this plan has had the effect of breaking down district lines, so that it will be found that the jurisdictions of councillors often overlap.

The Lyon County Society has a paid up membership of 35, derived as follows: Lyon, 23; Chase, 5; Morris, 2; Greenwood, 3; Osage, 1; Coffee, 1. Of these, two are new members, one coming from Lyon and one from Coffee. The society lost seven members during the year, one by removal and six by suspension. There were no losses by death. There were 10 regular and no special meetings held during the year. The average attendance at the meetings was 18. The society had a net loss of four members. It is one of the very best societies in the state, and has sustained that reputation for many years. The programs are carefully prepared and much interest is shown. At the December meeting a case of macular-anesthetic leprosy was presented which was of unusual interest. Two of the meetings were addressed by speakers from a distance.

The Shawnee County Society has a paid up membership of 135, two of which are new members—from Shawnee. The members are derived as follows: Shawnee, 115; Jefferson, 8; Wabaunsee, 6; Osage, 4; Jackson, 1; Pottawatomie, 1. There were lost during the year, two by death, two by suspension and one by removal. There was a net loss over last year of three members. There were 10 regular and one special meetings, with an average attendance of 53.8.

This society is in a very flourishing condition, has wide awake officers, and its members are very proud to belong to it, even though some of them never attend its meetings.

Geary County, which belongs in this district, has no county organization, but like many other counties in the state, derives its membership through adjacent county organizations or through connection with the Golden Belt Society.

O. P. DAVIS, Councillor.

*Fifth District*, Dr. J. T. Axtell, Councillor, Newton, gave the following report:

To the House of Delegates: I am glad

to report that I have been able to visit most of the County Medical Societies in my district and that they are in very satisfactory condition.

Membership and interest in the Societies and attendance at meetings has been very good.

J. T. AXTELL, Councillor.

*Sixth District*, Dr. E. S. Edgerton, Councillor, Wichita, gave the following report:

The Sixth District, composed of Kingman, Cowley, Sumner, Sedgwick, Butler, Harper, Barber, Greenwood, Clark and Comanche counties, has, taken as a whole, had a good year.

There are six organized societies in the district, the other counties having too few physicians to keep up society interest.

In the main the economic prosperity of the community has been reflected in better business for the doctors and also a thing that is deserving of wider consideration is the increasing co-operation of members with retail credit associations and other like bodies to place the physician's work on the same business like basis as that of the merchant or other institutions. Better business conditions, however, have not reacted favorably for medical society activity. In general there has been a greater demand with fewer available physicians. In the past ten years there has been a decrease of 50 per cent in the number of physicians in the counties outside of Sedgwick. Other things have come along to dissipate interest there. In Sedgwick County we are having too many meetings. Three hospitals hold regular monthly staff meetings. Other groups and committees demand the time of members. It seems to us that little is being gained and nothing new being added for the good of the profession as a whole by this division of effort, and that it is all being done at the cost of interest in the county society meeting.

In general the Sixth District has shown an active interest in the efforts of the State Society for favorable legislation; in the Crippled Children's work; in the University of Kansas extension courses,

and we are freer from local and factional disputes than ever before.

E. S. EDGERTON, Councillor.

*Seventh District*, Dr. C. C. Stillman, Councillor, Morganville, gave the following report:

The following form letter was sent to the last known Secretary of each County Medical Society in the district about April 10th of the present year, save alone to our own county secretary (Clay) whom I inadvertently overlooked.

April 11, 1929.

Dear Doctor:

As you are no doubt aware, the State Meeting will be at Salina, Kansas, next month. As your Councillor, I am very anxious that the Seventh District shall be represented with a full list at the House of Delegates. I also am anxious to have a report from every County Secretary relative to the Medical Society activities in his County during the past year. This is essential in the making of my report to the State Secretary.

Trusting that I may meet one or more of you at Salina next month, I am,

Yours sincerely,

C. C. STILLMAN,

Councillor Seventh District.

I will say this for Clay County, we have eighteen members in our Society. We have meetings regularly each month, except during the warm summer months. We have done this practically uninterruptedly for twenty-eight years. Our percentage of attendance, we believe, will rank as high as that of any medical society in the state.

It is our custom to have at our annual meeting a banquet and have our wives present. Also the superintendent of our local hospital together with her corps of nurses and possibly a few other guests. The program on this occasion being one suitable for such a meeting, i.e., departing from the usual scientific regime. I would add in passing, these meetings have been most popular and always marked by a large attendance. They seem, indeed, to have done much toward keeping up a loyal interest in our Society.

Another annual feature which we believe does much for both societies is our joint meeting with the local County Dental Society. This too is generally made a "feed" occasion. However much the highbrows and intellectuals, those sated with ennui and disgust over and by the

"vulgarity" of eating for any other purpose than merely that of sustaining bodily strength, growth, and vigor, and *never* to be regarded as a rite or other ceremony, we trail along with the one time poet, Owen Meredith, we believe it was, beloved author of *Lucile*. He it was, if we remember correctly, who related that "Man may live without" the many material things which he went on to relate in much detail and wonderful rhyme, "but he may never live without cooks."

At any rate these joint meetings seem to add much good fellowship, enthusiasm, and healthy exchange of ideas, promote harmony of both social and business life.

During this year we have adopted a new, and what seems a most successful program plan. It has long been our custom to have our meetings addressed each time by some out of town man. He has generally been selected by the Secretary. One or two years we had a regular program committee appointed to look after the matter. At the suggestion of one of our members at our last annual meeting the matter of furnishing programs was put on a "Pass it around basis." The Chair appoints a member of the Society to furnish program for each given month.

He knows a long time ahead what he has to do, and so far, the thing is working out wonderfully well—throws a lot less work also on that already much worked officer, the Secretary.

A couple of years ago we adopted the policy in our Society of raising the local dues to a point where we could and should spend some money for the benefit of the organization. For years we had fooled along with the one dollar annual dues as do most County Societies. Our programs were of necessity largely mooched, i.e., we imposed upon the good nature of those whom we asked to address us. We generally had men too that were plenty busy at home, even though the local profession might not refer them any cases. There seems no good reason why these men should come out from the cities where they generally are located, losing almost an entire day from their respective offices, if they were from Kansas City, besides paying railroad fare and hotel bills, to talk to a



bunch of docs, many of whom were often times too indifferent, or too *busy* (sometimes "busy" meaning engaged in a pinochle game or kindred high minded diversion), to lend the meeting the dignity of their presence.

Going on the theory that what costs little is even less appreciated, we estimated that the expense, reckoned from the minimal standpoint, would be fifteen dollars for hotel and carfare, to get a man out from Kansas City. We raised our dues to fit this, making the County dues fifteen dollars the first year and have now dropped to ten, or to any amount that the budget might seem to demand. This money is to be spent for program purposes alone. It seems to have worked very well thus far.

I have dwelt lengthily on the workings of the Clay County Society. I hope that it will not be taken as in the spirit of brag. While we are, and I believe justly so, proud of it, we call attention to it merely because we are an average county, as compared with the counties of the Seventh District. Our towns are about the same size. Our men are as widely scattered. We have the same type and kind of patrons. Our industry is agricultural alone, same as that of the rest of your territory. Our roads are the same. Our quarrels and disagreements among ourselves even are the same.

We'd like here to interpolate an opinion. For a medical society to operate successfully in any community such as is ours it requires the enthusiastic support of its members. It is probably better to have one or two leaders that are especially active. It also requires loyalty and, above all, as nearly 100 per cent attendance at the meetings as is possible. Leave the quarrel or grudge, if you have one, at home. It is *your* meeting as well as that of the other fellow. You need not fuss with him any more than you need "kiss him" if you choose not to. The man who attends medical meetings is the better qualified to do his work. The public is beginning to know this. They rightfully expect "their doctor" to keep abreast of things.

Cloud County reports that their last

regular meeting was held December 1, 1927.

In response to a special questionnaire sent them regarding a rumor that their meetings were held with and as a part of the regular monthly staff meetings of one of their local hospitals, their Secretary reported this to not be the case. They merely do not function as a County Society situated as they are should and could. They did not designate to me the choice of delegate having been made.

Washington County sent report that their county society is inactive largely because of the fact that their men are so widely scattered. In my judgment, this is not a sufficient excuse. They could at least have quarterly meetings. One of their men is present, I believe, and is to be on the program. I chance to know that he had secretarial experience in one of the successful local societies of the state before going to Washington County to practice. I feel sure that if the Washington County men will urge him a bit he will help them to organize a functioning society; but he will have to have *support* and loyalty. I will also be glad to help, if for no other reason than a matter of sentiment. I began my career as a practitioner of medicine in Washington County thirty-two years ago.

Republic County sent no response to my request for a report. I have met with them a time or two. While they would seem well able to have a good society, they seem a bit indifferent in the matter.

Mitchell County reported that H. A. Hope would be their delegate to the State Society meeting at Salina.

Jewell, Osborne and Rooks County Societies—if any—made no reports.

C. C. STILLMAN, Councillor.

*Eighth District*, Dr. Alfred O'Donnell, Councillor, Ellsworth, gave the following report:

To the President and House of Delegates: I beg to submit the following report from the eighth district: Saline County Medical Society: Thirty-two members; all eligible physicians are members; meets monthly and is active.

Ellsworth County is part of the Central Kansas Medical Society; eight doctors, all which are members. The Cen-

tral Kansas Medical Society meets quarterly, is active.

Dickinson County Medical Society: Twenty-three members; meets quarterly; active; all eligible physicians are members.

Lincoln County Medical Society: Eight physicians, six are members of the Lincoln County Medical Society, one belongs to the Central Kansas Medical Society.

Ottawa County Medical Society: Eight members which includes all physicians in the county; meets quarterly.

On account of the small membership in the Lincoln and Ottawa Medical Societies, the men in Lincoln, Ottawa, Mitchell and Osborne counties have formed the Solomon Valley Medical Society: this meets quarterly; rotating among the counties, the men in the county in which the meeting is held act as the hosts of the society. Very good attendance is reported and interest shown.

ALFRED O'DONNELL, Councillor.

*Ninth District*, Dr. C. S. Kenney, Councillor, Norton, gave the following report:

To the President, Councillors, Delegates: I beg to make the following report of the conditions of the Medical Societies in the 9th Councillor District, comprising the counties of: Smith, Phillips, Norton, Decatur, Rawlins, Cheyenne, Sherman and Thomas. We have two societies in this district. The Smith County which has not been very active the past year, but it is the hope of the president, Dr. D. Relihan, and the acting secretary, Dr. Victor Watts, to create a more active interest in the work during the next year. A "pep" meeting is being planned a little later, and it is the hope that this society which has formerly been quite active will again function as it did formerly.

The other is the Decatur and Norton Society which comprises all the other counties in the district. Meetings are held quarterly. Frequently outside speakers are obtained for meetings. The visitors are entertained by local physicians in the city in which the meeting is held at a dinner. The Ladies Auxiliary usually meets on the same date and joins

the medical men socially at the dinners.

This part of the program has proven to be very successful and adds to the interest of both societies. In January this society sponsored a Crippled Children's Clinic at the State Sanatorium where more than seventy children were examined by Dr. C. B. Francisco of Kansas City, Mo.

C. S. KENNEY, Councillor.

*Tenth District*, Dr. Ivan B. Parker, Councillor, gave the following report:

To the House of Delegates: The following report is respectfully submitted to you for the Tenth Councillor District.

This district comprises the counties of Graham, Trego, Gove, Sheridan, Logan, Wallace, Ellis and Russell. This is a large district. The western portion of which is rather sparsely settled. There are some new men who have come into the district recently. I have made an effort to get in touch with them and tried to convey to them the benefits of belonging to the society.

There is one active society in these eight counties. A real live organization and meets quarterly at Hays, Russell or Ellsworth. A very large percentage of the eligible physicians of the district belong to the society and are active members. The attendance is splendid and a fraternal spirit permeates the meetings. The local doctors of the town where the society meets are to be commended for their efforts in providing meeting places, material, clinical material, and especially for their entertainment of the visiting doctors and their wives.

The general plan is to have one or two outstanding men from the outside on the program. Clinical material is provided to illustrate their papers, also other interesting clinical material. The local members of the society read papers to fill out the program. Free and full discussion is urged on all papers and clinics. There is a general good will feeling manifested among the members.

There have been no charges presented to me for unprofessional conduct, and no suspensions, dismissals, or expulsions on these grounds. I think the difficulties relative to mileage on O. B. cases is gradually adjusting itself, at any rate no



complaint has been filed with me for several months.

While the district is large it has been a pleasure to serve as councillor of this district.

IVAN B. PARKER, Councillor.

*Eleventh District*, Dr. C. H. Ewing, Councillor, Larned, gave the following report:

A report of the eleventh district must necessarily be brief. Of the counties comprising this district only four have organized societies, Barton, Pawnee and Rush-Ness. Barton has a real active society while the other two of Pawnee and Rush-Ness have only occasional meetings.

The other counties are thinly populated and extend west to the state line. They have only from one to three doctors in each county with the exception of Edwards County.

Edwards County should have a county society but the doctors do not seem to be able to get together on forming an organization.

Doctors in counties not having societies are nearly all members of adjacent county societies.

Barton County has the only real live society in the district. They hold regular meetings during the winter months and have splendid programs and entertainment.

C. H. EWING, Councillor.

*Twelfth District*, Dr. Wm. F. Fee, Councillor, Meade, gave the following report:

To the President and House of Delegates: As councillor of the 12th District I have very little to report. Everything is moving along about as usual. Most all of the men in this district find enough regular practice to keep them busy, and there is very little bickering and jealousy among the physicians, all finding enough to do.

Meade-Seward Medical Society is still doing business at the old stand, with practically all of the eligible men members of the society.

The Ford County Medical Society has eleven members in good standing, with three men delinquent in dues. One man has retired from practice, and two men

who are eligible have not joined although they have been given a chance to do so.

Finney County Medical Society is doing quite well and is making progress. The territory west of Liberal and Gardent City is rapidly filling up, and with the advent of settlers come the doctors in proportion, and with the splendid prospects of an abundant harvest and the rapid growth of our young cities it will not be long until other medical societies can be formed in the western part of the state.

It is too bad that the Basic Science Bill was defeated in the last session of the legislature. It was a piece of legislation much needed for the protection of our people against fakers and the "cults."

Our editor did an immense amount of work on this bill, and had he received proper support from the society members the bill would doubtless have been enacted.

WM. F. FEE, Councillor.

#### REPORT OF MEDICAL DEFENSE BOARD

To the House of Delegates:

The Medical Defense Board herewith submits the report of its activities during the past year. The report of its attorney is also submitted, setting forth the status of all cases at present in process of litigation. His report will show the number of cases finally disposed of, and with what result, and the number of new cases filed. It is therefore unnecessary to repeat this information in this report. It will be observed that the cases brought to issue have been hard fought and that all have resulted quite favorably to our interests.

The cases which we have had, during the last few years, have been, for the most part, better calculated to elicit a real fight in the courts. It used to be the habit to bring suits against our members for the most unsubstantial reasons. Lawyers were easily found who encouraged this practice, and doctors were also easily found who lent support to it. But cases of this kind were often thrown out of court on demurrer or else were easily beaten in a short trial. At the present time it is difficult to get a lawyer to undertake an action without strong pros-

pect of success, from his point of view, and it is harder to get medical testimony to support a suit against a medical man. The cases we do have therefore are harder fought, last longer and cost us more money than formerly. It is still our policy to discourage compromise and to fight the cases brought against our members to the courts of last resort. This has had the effect of deterring the litigious tendencies formerly so prevalent.

It has cost the Defense Fund, as shown by vouchers from No. 105 to No. 120, inclusive, the sum of \$2297.43 to carry on during the past year. This is \$348.41 in excess of the expenses of the previous year. The items of expense covered by these vouchers will be found listed in the report of the Treasurer and are omitted in this report to save unnecessary repetition. It is well known that this Board does not handle any money, either by way of receipt or expenditure, so that there is no chance for any discrepancy.

This is the 18th year of operation of our defense system. For 15 years of that time the Defense Board has been presided over by its present chairman. It was during his year as president of the Kansas Medical Society that the plan was inaugurated. He therefore feels a peculiar and somewhat paternal interest in its welfare and success. Sometimes there seems to be an undeserved indifference to it on the part of the membership. It is easy to undervalue it so long as one is lucky enough to have no need of its help. But we uniformly find that those who have invoked its aid are from that time on its warm defenders. And such persons as have been cured by the medicine should be expected to write the best testimonials. We are content to wait until enough more of our members have been helped by our treatment to bring about that smashing endorsement we should like to have. Meantime, no matter if this Board does not get listed on the annual program-folder among the more important committees and boards of this society. No matter, if the members of the society, in consequence, do not know where to apply for informa-

tion along this line in time of need, as often happens. The defense movement, after 18 years of helpful service has taken root, and will continue to operate, under other and probably better management, for years to come, inconspicuously but effectively.

We wish to acknowledge at this time our appreciation of the services of our attorney, Judge John Hamilton. He has been most efficient and diligent at all times, and we have had uniformly favorable expressions from all of our members whom he has had to serve as clients.

A table of our expenditures during the past 15 years is subjoined, and may be found of interest:

DEFENSE BOARD EXPENDITURES—  
15 YEARS

1915 .....	\$ 1254.95
1916 .....	1189.27
1917 .....	777.45
1918 .....	809.58
1919 .....	759.41
1920 .....	1245.51
1921 .....	1458.35
1922 .....	1236.08
1923 .....	1310.96
1924 .....	1479.76
1925 .....	1970.05
1926 .....	2008.13
1927 .....	1981.03
1928 .....	1949.02
1929 .....	2297.43

Total, 15 yrs. ....\$21726.97

Average, per yr. .... 1448.46

Respectfully submitted,

O. P. Davis, Chairman.

April 17, 1929.

Dr. O. P. Davis, Chairman,

My dear Dr. Davis:

I have the honor to enclose, herewith, a summary of the cases which have been handled by me as attorney for your Board during the period from April 1, 1928 to April 1, 1929. Upon reference to this report you will note that twenty-one cases are reported as compared with twenty-three during the prior year. An analysis of the report shows that five new cases were filed during the current year which is the same number as was filed during the preceding year. During the period covered by the report eleven cases have been disposed of in the trial court, all of which resulted favorably to our interests. Three cases were dismissed during the year upon settlement by insurance companies. Two cases are



pending at this time in the Supreme Court; one on appeal by the defendant and one upon appeal by the plaintiff. I am still carrying in my report several cases which are technically alive, but which may for practical purposes be considered as closed. These cases have been noted in the column of remarks and unless some action is taken to revive them they will not be carried further in my files as open cases.

There are pending at this time eight cases, but this includes those which I have just noted as not being active and for the purpose of this report I think I can safely say only four of these cases should be classified as active. This, of course, does not include the two cases which are pending upon appeal in the Supreme Court.

An analysis of the types of cases reported shows that of the twenty-one cases contained in the report eleven arose out of fractures and ten for miscellaneous reasons which are noted under the column headed "Nature of Action." If there is any further information which I can render to the Board I shall be glad to do so.

Trusting that the report which is submitted is to the satisfaction of the Board, I am,

Very truly yours,

J. D. M. HAMILTON.

#### SUMMARY OF CASES MEDICAL DEFENSE BOARD April 1, 1928, to April 1, 1929.

1. Smock v. Dr. L. A. Corwin and Dr. W. G. Bouse, failure to properly reduce and treat fracture of femur, filed 4-25-24. Dismissed by Judge of U. S. District Court for want of prosecution.

2. Barrett v. Dr. A. Bennie, negligent puncture of bladder during childbirth, filed 6-26-25. Dr. Bennie died during pendency of action and it has not been revived to this date. Unless a revivor is had during the current year case will be dropped from our file as closed.

3. Teel v. Dr. Walter J. Singleton and Dr. W. J. Lewis, negligent reduction of fracture of radius, filed 6-16-25. Plaintiff's motion for new trial has never been disposed of and unless action is taken during current year case will be dropped.

4. Schmidt v. Dr. F. G. McEwan and

Dr. L. D. Johnson, negligent appendectomy, filed 11-16-25. Dismissed without prejudice Oct. 1, 1927. Plaintiff having failed to refile within one year from that date dismissal is final.

5. Bennett v. Dr. G. E. Kassebaum and Dr. L. D. Johnson, negligent reduction of fracture of tibia, filed 11-21-25. Dismissed on settlement by insurance company.

6. Strode v. Dr. W. T. McKay, improper treatment of injured tibia, filed 2-11-26. First trial resulted in hung jury. Second trial verdict set aside for misconduct of juror. Third trial resulted in hung jury. Pending for retrial at this time.

7. Tuttle v. Dr. F. P. Wesley, improper reduction of fracture of radius. Dismissed for want of prosecution.

8. Young v. Dr. R. W. Moore, negligent failure to diagnose dislocation of elbow, filed 10-11-26. Verdict for defendant upon second trial to jury.

9. Naugle v. Dr. G. W. Alleman, failure to take x-ray pictures of a fracture of the radius and to properly reduce fracture, filed 7-24-26. Tried to jury. Verdict for defendant.

10. McMillan v. Dr. Frank Foncanon, failure to properly diagnose and treat fracture of radius, filed 10-10-26. Pending upon appeal from judgment for defendant.

11. Cooper v. Dr. J. A. Bundy and Dr. Willard Brown, negligently producing burn while using fluoroscope, filed 4-9-26. Pending upon appeal from judgment for plaintiff.

12. Smith v. Dr. R. C. Harner, failure to properly diagnose and treat Colles fracture, filed 5-31-27. Dismissed upon defendant's demurrer.

13. Wert v. Dr. G. H. Rotter, failure to properly treat gunshot wound, patient dying from loss of blood, filed 6-1-27. Dismissed upon settlement by insurance company.

14. Lacy v. Dr. H. C. Markham, negligence in performing mastoid operation, filed 9-16-27. Trial to jury. Verdict for defendant. Appeal by plaintiff dismissed for want of prosecution.

15. Johnson v. Dr. Charles Rewerts and Dr. O. W. Miner, failure to remove

sponge from operative field, filed 9-19-27. Verdict for plaintiff for \$1,000.00. Settlement on verdict by insurance company.

16. Mickens v. W. O. Nelson, assault for performing unauthorized operation, filed 2-6-28. Tried to jury. Verdict for defendant.

17. Browne v. Dr. G. K. Purves, negligent failure to reduce fractured forearm, filed 5-6-28. Verdict for defendant upon trial to jury.

18. Calvert v. Dr. W. J. Eilerts, negligence in failing to remove instrument, filed 5-10-28. Dismissed upon settlement by insurance company.

19. Hughes v. Dr. F. W. Tretbar, negligent failure to attend patient, filed 6-26-28. Defendant's demurrer to plaintiff's evidence sustained. Pending on motion for new trial.

20. Dr. A. R. Nash v. Mangan, cross-petition for negligent failure to properly diagnose infection of jaw bone, filed 6-30-28. At issue.

21. Dyer v. Drs. L. D. Johnson and A. M. Garton, negligence in reducing fracture of femur, filed 3-4-29. Pending on preliminary motions.

#### REPORTS OF STANDING COMMITTEE

The Executive Committee of the Council had no occasion to meet during the year and therefore there was no report submitted.

#### BUREAU OF PUBLIC RELATIONS

Financial Statement—May 1, 1929, Dr. W. E. McVey, Ex. Sec'y.

##### RECEIPTS

August 19, 1926, to May 1, 1928.....	\$3,206.55	
Expended to May 1, 1928 .....	3,306.55	
Balance due Bureau May 1, 1928.....	\$ 100.00	
Check received May 11, 1928, from Sec.		\$ 200.00
Balance on hand .....	\$ 100.00	
Received May 1, 1928, to May 1, 1929.	2,400.00	
Expended May 1, 1928, to May 1, 1929:		
Salaries May 1, 1928, to May 1, 1929		\$1,566.75
Postage May 1, 1928, to May 1, 1929		411.66
Stationery .....		132.00
Circulars and pamphlets .....		184.50
Telegrams .....		31.38
Miscellaneous .....		21.07
	\$2,500.00	\$2,347.36
Balance on hand May 1, 1929 .....		152.64
	\$2,500.00	\$2,500.00

This is a correct account of the receipts and disbursements of The Bureau of Public Relations. No part of the funds received from the Society for the said Bureau have been directly or indirectly paid into the private account of, or in any way diverted to the personal use of W. E. McVey, Executive Secretary of the Bureau.

RUTH CARLSON, Asst. to the Executive Sec.

Subscribed and sworn to before me this 3rd day of May, 1929.

My commission expires April 15, 1933.

EVANGELINE INGERSOLL,  
Notary Public.

Since the Bureau of Public Relations was established, there have been prepared and sent out from this office 99,800 pieces of mail, pamphlets, reprints, circular letters, including 7,500 articles to newspapers in the State, and in addition a considerable amount of correspondence naturally required in the regular business of the Bureau.

Since May, 1927, the activities of the Bureau have been diverted somewhat from the original plan. Its activities have been directed in large measure toward a publicity campaign for the basic science law. More than 45,000 pamphlets, reprints and circulars concerning this proposed law have been mailed since that time in addition to several thousand letters.

Soon after the annual meeting in 1927, from the recommendations of the councillors from the various districts, members of a state-wide campaign committee were appointed from 88 counties in the state. They were informed as to what they would be expected to do. Copies of the proposed law and other literature concerning it were mailed them and they were requested to interview the various candidates for the legislature and let us know the attitude of these men toward such legislation. *Forty-eight* of these men gave us more or less assistance and co-operation. Some of these were very active and gave us very important and reliable information, but we are including among the forty-eight every one who replied in any manner to at least one letter.

But there were *thirty-eight* who did not even reply to a single letter and if they took any part in the campaign our office received no information from them and has no record of any assistance from them.

Before we could begin mailing our publicity material it was necessary that we secure mailing lists of voters from each county. We asked members of the state-wide campaign committee to supply these and a good many responded. From the



members of the committee and from secretaries of county societies we succeeded in getting fairly good lists. We begin mailing our material as soon as lists were available and distributed it over the territory covered by these lists.

As the time for the convening of the legislature approached it seemed that some means must be found by which the people could express their wishes in the matter of legislation to the legislators. Petitions seemed to be the only available means for this purpose. We therefore sent blank petitions to each member of the society asking him to secure at least 100 signatures. This would give us approximately 150,000 names and it did not seem probable that there might be a single member of the society unable to secure that many names. Apparently we very greatly overestimated the popularity and influence of the members of our society in their various communities, or we were entirely mistaken as to the extent of their interest in the passage of this bill—for when the legislature convened we had received 8,274 names and these had been sent in by 129 members. What shall one infer as to the other 1,370?

We were informed early and often that petitions were useless, that members of the legislature paid no attention to them—that they themselves so stated. We happen to know, however, that the members of the legislature that passed the chiropractic bill gave the large petitions as their excuse for voting for it and the then governor gave the large petitions received as his excuse for not vetoing it. We have not yet been persuaded that there is an honorable legislator or rational politician that would ignore a petition signed by 150,000 voters, or 100,000, or even 50,000 voters.

From a summary of the activities of the members of the society in this campaign as compiled from the records in our office one can only conclude that fewer than 200 cared a tinker's dam whether the basic science bill was passed or not.

However, we had fairly reliable information that a majority of the members of the House and a majority of the

Senate could be counted on as favorable to the bill. But it was also a matter of comment that a number of those who had promised to support the bill were very anxious that it should never come to a vote. What actually took place in the legislature will be reported by the Committee on Public Policy and Legislation.

Co-operation by the newspapers of the state is very essential in any educational campaign and particularly one of the character we have been trying to conduct. We feel that the Kansas newspapers have been very generous to us. We are sending short articles to seventy of them every week. Not all of these articles are used by all of these papers, and on account of the expense for subscriptions to that many papers we have not been able to keep a check on them. However, we have reason to be very grateful to them for the consideration they have given us. Naturally the newspapers regard anything of this sort as a favor or concession to the medical profession from whom they receive nothing in return. From a publisher's point of view they are justified in their stand. It might be well to consider if it would not be good policy for the state society, or the county societies, or both, to buy some advertising space in these newspapers. The newspapers, the public and a large part of the medical profession have a misconception of the principles of ethics as it effects advertising. Personal advertising by physicians is unethical—if of a character to be profitable it must be immodest or made up of unwarranted claims. There is nothing in the principles of ethics that prohibits members or groups of members of the medical profession giving publicity to the accomplishments of scientific medicine. This sort of publicity campaign is being conducted by the A.M.A. and by numerous other organizations, lay and professional, that are interested in various branches of research. They do not pay space rates to the papers that use their material, but is the ethics of a publicity campaign determined by whether it is gratuitous or paid for?

Our publicity campaign can be most successfully conducted through the

county newspapers, they reach a large proportion of those who need the education, but they can least afford to donate the space and can least afford to antagonize a considerable per cent of their paying patrons.

We would like to suggest that this matter be given very careful consideration by this body.

Report accepted and filed.

A motion was regularly made and seconded that the work of the committee be commended and an amendment to the motion provided that the Bureau of Public Relations be continued.

The motion was carried.

#### REPORT OF COMMITTEE ON PUBLIC HEALTH AND EDUCATION

In the absence of Dr. Brown, chairman, the report was read by Dr. J. F. Hassig.

Mr. President and Members of the House of Delegates:

Your committee on Public Health and Education, desire to submit the following report:

1. This committee would remind the members of the House of Delegates of the resolution adopted at the 1926 meeting, requesting local societies to use all ethical measures in furtherance of the diphtheria prevention program in the State of Kansas. As a result of the action of the society at that meeting, a large number of the component societies have sponsored and conducted toxin antitoxin immunization programs in the past three years. These programs, however, have been confined almost entirely to the children of school age. To successfully combat diphtheria, immunization must be extended to the pre-school group, and the success in the immunization of this group lies largely with the practicing physician. Practicing physicians should extend to parents of children of pre-school age the value of toxin antitoxin immunization in an effort to secure protection of these young children against diphtheria.

2. This committee again wishes to emphasize the value of Hygeia as an aid in public health education, and would recommend to those societies who have not already done so, that complimentary subscriptions be made for public and high

school libraries in their respective counties.

3. This committee, although recognizing there is oftentimes difficulty in making arrangements and holding such meetings, favors the county societies sponsoring and holding meetings for the public where they may gain an accurate knowledge as to matters affecting the health and modern preventive methods. There are also various occasions where health subjects may be discussed, such as meetings of civic clubs, lodges, Sunday school classes, etc., Here, often times, the occasion is offered to a medical man for a short address. Such an opportunity should not be neglected.

EARLE G. BROWN, Chairman.

Report accepted and filed.

CONCLUDED IN JULY ISSUE

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DR. S. N. CHAFFEE,  
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# THE JOURNAL

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### The Treatment of Lobar Pneumonia

F. M. WILEY, M.D., Fredonia

Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

A great nation is in mourning and the whole world is moved by a sympathetic concern because of the sudden death of France's most distinguished citizen and the greatest military genius of all time. Pneumonia conquered the conqueror of the greatest war machine the world ever has known.

For many weeks pneumonia held Great Britain's monarch at the door of death, and the world was tense while medical science maintained a remarkable and finally successful struggle for his life.

Prince Henry, of Prussia, who a dispatch says: "One vivid day more than twenty-seven years ago came to Washington with all the pomp and state befitting his royal blood and his special mission as good will ambassador to the American government and people from his brother, Emperor William, of Germany, died April twenty-third, a victim of pneumonia." And so in every part of the world, especially in Europe and America, in the palaces of royalty and wealth, where life and health are guarded by the very highest type of scientific medical skill, as well as in the lowly homes of the common people served by you and me this deadly enemy, pneumonia claims his toll of human lives, and we are as helpless to stay his hand as were our fathers a century ago.

The toll of human lives taken by pneumonia in Kansas each year from 1919 to 1927 averaged more than 1400—which exceeds the number claimed by any other cause except organic heart disease.

In the United States the average number is more than 136 thousand which is far in excess of that from any other disease except organic heart disease. Pneumonia is the present pressing problem

facing the medical profession. The present generation of scientific doctors has registered some remarkable victories but the challenge of pneumonia stands defiant yet. To our credit the death rate per hundred thousand of population shows a marked reduction but the mortality rate per thousand cases in 1929 shows no improvement since the discarding of treatment by bleeding, blisters, tartarized antimony and mercury sixty years ago.

May I be indulged in a brief reference of a personal character in some degree explaining the deep interest I have in this subject, and my reason for introducing a matter so trite to the attention of this society? In 1873, when I was a boy of seventeen, pneumonia robbed me of my mother. Her age was forty-five. In 1890 a brother, in 1901 my sixteen year old son, and in 1914 a sister were victims of the disease.

I do not wish to bore you with statistics. In fact statistics in this case are of little value—contradictory, and often misleading. I do not expect any serious denial of the statement that we have made no gain in the control of pneumonia in sixty years, since the end of the bleeding age, save in prevention by isolation and other precautionary measures resulting from recognition of the contagious nature of the disease.

In 1849, Dr. Thomas Watson, in a lecture delivered at Kings College, London, gave the following classical account of the treatment of pneumonia at that period, stating it had been the approved treatment for ages.

"The great instruments to be employed in the treatment of inflammation of the lungs, are the same which have been so often recommended by me, in other inflammatory infections, before: blood-letting, tartarized antimony, mercury. Of these, blood-letting is the chief. Both reason and experience attest the

especial power of bleeding upon acute pneumonia.

"The late Dr. Gregory, of Edinburgh, was in the habit of saying in his lectures, that provided he was called early to a case of pneumonia, he would be contented to dispense with all other aids than those of the lancet, and water-gruel. Very lately, one most distinguished French writer, M. Louis, has endeavored to show that venesection has not much control over the progress or event of pneumonia; and I avert to his opinion on this subject merely to caution you against being misled by it; as you might otherwise be, considering his well merited reputation as an exact and faithful observer."

Upon this I am led to make three comments. First: I note the clarity and literary excellence of the quotation and the firm conviction in the mind of its author. Second: Those who followed his teaching, having arrived at a diagnosis, always know what to do. In fact to have departed from this well defined, and universally approved course would have been to incur danger of malpractice prosecution. Third: The reference to the French authority, Dr. Louis, indicates that at least one independent investigator had begun to have doubts, though that may be explained by the fact that Dr. Watson and also his predecessor, the great Dr. Gregory, were English while Dr. Louis was French.

For a score of years following this statement of Dr. Watson pneumonia was still considered a local disease, and an aggressive treatment was conducted against it as such, though a slowly increasing number of authorities advocated less heroic measures. At the time of my graduation there was no generally accepted plan of treatment, and no plan that was advocated with the degree of assurance possessed by the gentlemen of the lancet in their sanguinary warfare, nor has such a plan been produced to this day. It was just beginning to be suspected that inflammation of the lungs was not a local disease, but a local manifestation of a constitutional one. In fact in the very year of my graduation, 1877, German pathologists, led by the fact that

pneumonia sometimes assumed an epidemic character and pursued a more definite course than most inflammatory affections, published their conclusions that it is a general rather than a local disease and that it is infectious, and self-limited. This view was adopted by American writers, gained ground rapidly, and of course is now and has been for many years established as a fact. The problem was seen to be less a battle against the disease and more a matter of taking care of and supporting the patient with the knowledge that if we could keep him alive long enough the disease would run its course. Now began an era of experimentation that continued many years; in fact is not yet ended, though experiments now seem to be leading to a definite and most gratifying accomplishment. Blisters were used long after bleeding was discontinued, and may not yet have been entirely discarded.

When the tide of opinion and discussion against the policy of bleeding as a routine measure had gained some headway, it became a veritable and often bitter warfare, dividing the profession into two uncompromising factions, both in the seats of learning and in local communities.

Consecutively a large number of remedies and combinations of remedies were advocated as superior, each in turn gaining enthusiastic support based upon favorable statistical reports of a limited number of cases, only to be discarded later. Among the earliest of these were veratrum viride and aconite; then quinine and whisky, morphine and strychnine; the production of abscesses by injections of essence of turpentine, ice bags, digitalis in large doses. Creasote was regarded as almost a specific. Nitrite of amyl had a period of popularity. Ipecac and tartar emetic and antipyretic drugs were urged. It should be said that by discriminating physicians most of these remedies are used today in various stages and circumstances in the treatment of pneumonia but not as specifics. During this period bleeding still had strong advocates. In 1889 Osler said, "Pneumonia is one of the diseases in which a timely venesection may save life.



To be of service it should be done early. In a full-blooded, healthy man with high fever and bounding pulse the abstraction of from twenty to thirty ounces of blood is in every way beneficial, relieving the pain and dyspnoea, reducing the temperature and relieving the cerebral symptoms so violent in some instances. Unfortunately, in a majority of the cases bleeding is now used at a late stage but, though resorted to as rather a forlorn hope, it is a rational practice, but in a majority of the cases proves futile. Time and again in such cases have I urged free venesection, but in twelve hospital patients bled under these circumstances only one recovered."

In 1894 Osler, in a sentence, pessimistically condemned all measures that had, during a quarter of a century, been so confidently proclaimed specifics by saying with a depressing finality, "Pneumonia is a self-limiting disease, and runs its course uninfluenced in any way by medicine. It can neither be aborted nor cut short by any known means at our command." In the same article he says, "Pneumonia is one of the most fatal of acute diseases. Hospital statistics show that the mortality ranges from twenty to forty per cent."

But if the great Osler relegated to oblivion all hopes of success in the struggle against pneumonia based upon the treatment of his predecessors for ages prior to the middle of the century and also the diverse proposals of those of the intervening half century, he was quick to catch the first rays of hope in the forecasting, by the scientists of his day, of the identification of the organism producing pneumonia and its destruction by the injection of antidotal substances. Later in life he saw this hope brought near to realization. Its complete realization now engages an army of skilled investigators, and probably will be the next great victory of the medical fraternity.

The campaign has been long and complete victory is not yet in sight. The problem presents unusual difficulties greatly enhanced by the fact that the cause of the disease is not a single virulent organism but may be one of per-

haps a dozen. The pneumococcus is found in four or more types, and type four is found to present ten or more variations. Besides the various pneumococci a number of other organisms may be present including streptococci and staphylococci.

About a year ago we read reports of the results of experiments conducted by one Herbert W. Nott and others, which if confirmed would simply rob pneumonia of all its terrors, and cause a sensation greater than that produced by the discovery of smallpox vaccination, diphtheria antitoxin, or insulin. They state, "they have been using a single agent which has controlled every case of undoubted pneumonia treated with it from the age of six months to seventy-one years." Why those cases under six months, or over seventy-one years of age are omitted from the report is not explained. Then they admit, "No one knows why potassium permanganate, held in aqueous solution and injected into the rectum, should give such good results." One might be excused for wishing the gentlemen had reported the number of cases they had treated with such marvelous results.

The ideal treatment must be some form of specific therapy. At present the most hopeful outlook is in a serum. Sera have been made which seem to produce results in types one and two of pneumococci. But most physicians do not possess the equipment or ability to diagnose types of pneumococci, and the ideal serum must be one whose success will not depend upon such diagnosis—in other words a polyvalent one, for delay of a single day might defeat the best directed treatment.

In a general way the most effective life-saving measures against this disease are prophylactic. Most cases of pneumonia develop after exposure to cold, so it follows that the slogan "Stop that Cold" if observed generally would prevent a majority of the attacks. Isolation of the patients and avoidance of unnecessary exposure to infection by attendants will greatly help to the same end.

"Make Early Diagnosis" might be adopted as another slogan that would

prevent a large number of fatalities. You laboratory and hospital men hand us the results of your labors in tables of statistics; and whatever remedy you are advocating, drugs, serum, or vaccine, emphasize the importance of administering the treatment early.

W. H. Wynn, in the *Lancet* for March, 1927, reports a series of 107 cases treated with vaccine containing *B. Influenzæ*, pneumococci, and streptococci which demonstrates the importance of early diagnosis and treatment. In twenty-eight cases treatment began the first day and all recovered: in twenty-three cases treatment began the second day and twenty-two recovered. He states that when treatment is delayed until the fourth or fifth day little can be expected from specific therapy. Regardless of the method of treatment adopted I believe each day's delay in the beginning diminishes the chances of success.

In the average cases of pneumonia we are in danger, in our anxiety, of giving too much medicine. Rest and quietude, fresh air, and hydrotherapy, internal and external, will meet most of the indications. Rest is as important in the treatment of pneumonia as it is in the treatment of tuberculosis of the lungs. Visitors should not be allowed. Loud talking should not be indulged and whispering even less. Whispering and tip-toeing will drive a nervous patient to despair. A quiet but cheerful assurance on the part of the attendants is an essential.

More fresh air in the beginning of the disease means less call for oxygen at the end. My experience is that in most cases the air should not be cold, but cold fresh air is far better than warm stale air. Many patients do well in open air if conditions are not unfavorable to rest and quietude.

Toxemia is often present in a degree out of proportion to the area of lung tissue involved, and causes unlooked for and early heart failure and cyanosis. Consequently prompt elimination should be promoted and maintained. In the beginning we empty the alimentary canal with calomel and seidlitz powders, which we repeat if necessary.

Enemas are useful especially if there

is distention. If bowels are obstinate a hypodermic of 1 c.c. of pituitrine gives good results.

Elimination by the kidneys and skin may usually be obtained by giving an abundance of water. Stronger diuretics may be required.

Expectorants are sometimes indicated, and always expected by the friends. They should not be in the form of a heavy syrup which is likely to derange the stomach. Muriate of ammonia seems to be of especial value in this connection, and late in the disease if cough persists I use *grindelia robusta* with satisfaction.

I have had no personal experience with diathermy but I believe its use to be rational and in many cases beneficial. In several of the largest and best equipped hospitals in the country diathermy is being used as a routine measure in every case of pneumonia. Some very brilliant results have been reported recently. It can be used in all forms of the disease; and in combination with any other routine measure.

I seldom have found use for opiates, except dovers powders occasionally. The bromides and valerianate of ammonia are usually efficient in calming nervousness and producing sleep.

Sponging with cold water or water and alcohol is also useful for this purpose and usually the best means of combating high temperature. For the latter effect as well as to prevent distention of the stomach and bowels salicylate of sodium will be found useful.

If I have used routine medical treatment it has been confined to two remedies: tincture of digitalis and salicylate of sodium.

Locally I have used an initial mustard plaster, followed formerly by flax-seed poultice, more recently by one of the prepared poultices, antiphlogistin or pneumophthisin. These applications contribute to the comfort of the patient, and I believe are to be preferred in most cases to cold applications.

A few conclusions:

First: Pneumonia is less prevalent now than formerly; but not less deadly, and far too prevalent.

Second: I would not have less pub-



licity and educational work for the control of tuberculosis; but more for the mastery of pneumonia.

Third: The three chief remedial measures are rest, fresh air, and hydrotherapy.

Fourth: Digitalis to be effective should be introduced not later than the beginning of the second stage, and should be carried to digitalization.

Fifth: Oxygen is in a degree discredited because its use is too often delayed until it becomes a forlorn hope. At any stage it is capable of doing harm if not diluted sufficiently.

Sixth: An efficient, purified, polyvalent serum is not yet at hand but will be the means of solving the problem of pneumonia.

R

### Injuries to the Coccyx

EARL L. VERMILLION, M.D., Salina

Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

It is not the purpose of this paper to go into a comprehensive discussion of the subject, but rather to give a few observations on a small number of cases seen in my own practice.

From my own experience, it would seem that injuries to the coccyx are more common than the literature on the subject would lead one to believe.

These injuries can be discussed under three groups:

1. Bruises
2. Dislocations
3. Fractures.

The symptoms for all of these injuries are the same but vary, of course, in their severity. They are disability, pain, and general nervousness. Complete disability often exists because such actions as coughing, walking, straining, lifting, etc., tend to put a strain on the injured part. The pain may be severe because of the close proximity to the posterior roots of the sacral nerves, and due to the extreme sensitiveness of the anal regions and the rectum; any injury here can have a profound effect on the general nervous state.

The physical signs vary with the kind of injury. The bruised coccyx is tender

and sometimes there is swelling. The dislocated coccyx has the added sign of excessive mobility and displacement, and in the fractures sometimes crepitus can be elicited.

The treatment in these cases consists in rest, sedatives, and local applications of heat, and sometimes surgical removal of the coccyx. Occasionally, due probably to adhesions which affect the post-sacral nerves, these symptoms persist and surgical removal becomes necessary.

I am reporting six cases of distinct injury to the coccyx and I have seen several others in which the symptoms were too mild to classify as real injuries.

Case 1, a young man had been thrown from a horse lighting in a sitting posture. He complained of a moderate amount of pain and tenderness but did not see a physician until three or four weeks later, at which time there was considerable swelling in the coccygeal region. He was referred to the surgeon who removed the coccyx which had become infected following the injury. Recovery was uneventful.

Case 2, a woman, forty-six years old, in getting out of a car had slipped and struck the coccyx on the edge of the car door. She complained of extreme pain, was nauseated, and had vomited. The coccyx was extremely tender but on rectal examination there was no displacement and apparently no increased mobility. Hot packs externally and a hot injection relieved the nausea, and she was given small doses of morphine for two or three days at which time the pain subsided.

Case 3, a young woman had slipped on the ice and sat down rather forcibly. She complained of severe pain which was relieved almost instantly when the coccyx was pushed back on rectal examination. This was a case of forward dislocation and required no further treatment.

Case 4, was a young woman who evidently had an old fracture with displacement discovered accidentally in making an x-ray examination of the pelvis. There was a history of a fall three years previous, but there were no symptoms which could be attributed to the present condi-

tion of the coccyx. She required no treatment.

Cases 5 and 6, were almost identical and were fractures. Both cases gave a previous history of injury to the coccyx but had had no medical aid at the time. In both cases the coccyx was bent forward, apparently ankylosed and was broken by pressure of the descending head during childbirth. Neither case complained of very much pain although in one case bony crepitus could be elicited. Later examinations showed the coccyx to be in a more normal condition. The rest in bed incident to their confinement was all the treatment these two cases received.

Conclusions: 1, Injury to the coccyx is a fairly common condition. 2, The severity of the symptoms does not depend on the severity of the injury.

—R—

**Report of the Kansas State Necrology Committee for the Current Year, April 16, 1928—April 15, 1929**

ELMER E. LIGGETT, M.D., Chm., Oswego

Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

Since our last report at the Wichita meeting in 1928, the Necrology Committee has received information as to the deaths of sixty-three physicians in Kansas, occurring between the dates of April 16, 1928, and April 15, 1929, inclusive. This information was obtained from the Kansas Journal, The American Medical Association Journal, from obituary notices in newspapers, from correspondence with the secretaries of the county societies, from other physicians in the communities in which deaths occurred, from relatives of the deceased and from the Secretary of the State Board of Health.

Of the sixty-one organized local societies, twenty-three report no deaths, but one death did occur in one county so reporting; twenty report thirty deaths, again one other death not reported did occur in one of these counties, and there were two delayed reports of death also. Six unorganized counties reported eight deaths, making a total of thirty-three deaths in twenty counties. Nineteen counties make no report, but from

other sources than the county secretaries it was learned that in twelve of the nineteen non-reporting counties, twenty-five deaths occurred, with two other delayed reports of death, two unorganized counties did not report their two deaths, making a total of twenty-nine deaths in fourteen non-reporting societies. Altogether there were four delayed reports of deaths, and sixty-three deaths to be reported for the year 1928-29.

Following the rule of adding two per cent to the number of deaths reported on account of delayed reports and possible omissions, we may estimate the total number of deaths for the year at sixty-five.

According to the 1927 edition of the American Medical Directory there are two thousand two hundred and ninety-six physicians in Kansas. Thus these sixty-five deaths are equivalent to twenty-eight and four-tenths per thousand. An increase over last year of a little less than two per cent per thousand. The Kansas State Board of Health reports the percentage among the people throughout the State for the year 1928 as eleven and three-tenths per thousand.

Of the sixty-three deaths reported twenty-six were members of the State Society, twenty-three were non-members and the status of fourteen was not stated. Thirty-four of the decedents were in active practice, fourteen were retired, and the status of ten was not stated, and in five instances we could obtain no information, but the fact of death in the State.

The ages of death of the sixty-three varied from thirty-nine to ninety-eight. One was under forty years of age, three died between the ages of forty and forty-nine, fourteen died between fifty and fifty-nine, twelve died between sixty and sixty-nine, sixteen between seventy and seventy-nine, ten died between eighty and eighty-nine, and seven were over ninety. Of these one was ninety-one, one each ninety-two and ninety-three, two were ninety-four, one ninety-six and one was ninety-eight.

The cause of death was not given in three instances. Of the sixty in which



it was given it was as follows: Apoplexy caused ten deaths; cancer five deaths; pneumonia and some form of heart disease eleven each. Angina pectoris, pernicious anemia, gall-bladder trouble, uremia and nephritis caused two deaths each. Diabetes, cirrhosis of the liver, senility, suicide, blood-poisoning, pleurisy, Pott's disease, tuberculosis, perforated ulcer of the duodenum, and appendicitis caused one death each. One was murdered and there were three accidents. Death followed operations in three instances, one cholecystectomy, one removal of cancerous prostate and one appendectomy. The three accidents were, the fall of an aged man downstairs, one killed by a motor car, and one, the first death among physicians of the State in an airplane crash. The only murder in our decade of reporting was that of Dr. Wineinger, committed by bandits after he had attended one of them.

The shortest length of time from graduation was four years, the longest seventy-five. Of the sixty-three decedents, the status of four was not given, fifty-three were graduated in medicine, six were non-graduates. One had been licensed or graduated four years, two from eleven to twenty years, sixteen from twenty-one to thirty years, seventeen from thirty-one to forty, twelve from forty-one to fifty, six from fifty-one to sixty, three from sixty-one to seventy. And one Dr. Davis, had been graduated seventy-five years. The length of time from graduation or license was not mentioned in five instances.

The dates of death per months were as follows: three died in the last half of April 1928, nine in May, four in June, six in July, five in August, one in September, three in October, three in November, seven in December, nine in January, four in February, two in March, and six in the first half of April, 1929.

Positions of honor and trust held both as citizens and physicians were varied. Several were Rotarians, one President of his Club, many were high degree Masons, workers in the Y. M. C. A. and church officers. Seven were mentioned as pioneer physicians in their communities, six were Civil War veterans, two having

been Majors and one a Divisional Surgeon. Four were World War veterans, two of them having been heads of respective Base Hospitals. One was a member of the Medical Reserve Corps. One had been State Vice-Commander of the American Legion. One had served on the U. S. Pension Board. Two had been members of the State Board of Medical Examiners. One had been a Representative in the State Legislature. Two had been Mayors of their Cities. One had been postmaster, one Justice of the Peace, two had been members of the City Council, three were members of the School Board, two having been president of that organization. Two had been City Health Officers, five County Health Officers, two were coroners. Five were railroad surgeons, one a District Surgeon for the Santa Fe. Two had been members of the faculty of medical schools. Two were on the staff of the Larned State Hospital. One on the staff of the Topeka State Hospital and one on the U. S. Veteran's Hospital staff. Many on various other important hospital staffs. One had been a charter member of the Shawnee County Society. Three were secretaries of their county societies at the time of their deaths. Two had been presidents of their county societies, and one vice president of the state society.

1. Valentine V. Adamson, Holton, aged 94, died of senility after a short illness, August 12, 1928. He was graduated from the College of Physicians and Surgeons, Keokuk, 1856, and Bellvue Hospital Medical College, 1869. He was located at Holton since 1862 (64 years). Was retired and not a member of the State Society.

2. Olin Wilbur Baird, Marquette, aged 76, died of uremia complication enlarged prostate, May 8, 1928. He was not a graduate of a medical school but was licensed in 1901. Was not a member of the State Society.

3. William Henry Bobo, Wichita, aged 72, died in Kansas City, January 6, 1929. He was graduated from the Ensworth Medical College, St. Joseph, 1898. Was retired and not a member of the State Society.

4. George W. Boccock, Matfield Green, aged 91, died of apoplexy December 8, 1928. He was a Civil War veteran. Was retired and not a member of the State Society.

5. William Clinton Bower, Topeka, aged 68, died of nephritis December 13, 1928. He was graduated from the Rush Medical College, Chicago, 1886. He was not a member of the State Society.

6. Erza Edmund Brewer, Beloit, aged 68, died following an operation for gallstones, June 15, 1928. He was graduated from the University Medical College, Kansas City, Mo., 1892. He was a life long resident of Beloit and had served on the Board of Education thirty-three years. Was formerly on the staff of the Beloit Hospital, and was Secretary of the Mitchell County Society, and a member of the State and American Societies.

7. G. M. Brewer, aged 55, was struck and killed by a motor car near El Dorado, August 22, 1928. He was Coroner of Grant County. No other information obtainable.

8. William Elwood Bundy, Hugoton, aged 76, died of lobar pneumonia, June 10, 1928. He was formerly County Health Officer and County Coroner. He was not a graduate of a medical school but was licensed in 1901. Was not a member of the State Society.

9. Thomas Jay Carter, Wichita, aged 51, died May 7, 1928, from broncho-pneumonia due to a lung abscess following the swallowing of a bone sliver. He was graduated from the Indiana Medical College, Indianapolis, 1902. Was a member of the State Society and a Fellow of the American Association.

10. Edward Ellsworth Colglazier, Rush Center, aged 62, died December 23, 1928, at a hospital in Great Bend of perforated ulcer of the duodenum. He was graduated from the Eclectic Medical University, Kansas City, Mo., 1902, and from the Kansas City College of Medicine and Surgery, 1920. He was not a member of the State Society.

11. Jephtha Davis, Ottawa, aged 94, died after a fall downstairs, November 2, 1928. He was graduated from the Cleveland University of Medicine and

Surgery, 1853. He had practiced in Ottawa sixty years, retiring but a year before his death. He was a member of the State Society.

12. Carmel Lonzo Davidson, Dighton, aged 48, died July 12, 1928, at a hospital in Ransom, Kansas, of carcinoma of the liver. He was graduated from the University of Manitoba, Winnipeg, 1896. He was not a member of the State Society.

13. Andrew Marion Dick, Zenda, aged 56, died April 18, 1928, of myocarditis. He was graduated from the Louisville Hospital and Medical College, 1908. He had practiced in Harper County. Was a member of the Kingman, State and American Societies.

14. Charles Dunning, Arkansas City, aged 67, died May 18, 1928, of acute valvular heart disease. He was graduated from the Medical Department of Columbia University, New York, 1887. He had practiced in Arkansas City nearly forty years and had been a surgeon for the Santa Fe thirty years. He was a member of the State Society and a Fellow of the American Medical Association.

15. John L. B. Eager, Topeka, aged 68, died of cholelithiasis, October 19, 1928. He was graduated from the Kansas City Medical College, 1884. He practiced in Kansas City, Kansas, more than thirty years until he joined the staff of the State Hospital at Topeka in 1917. He was a member of the State and American Societies.

16. Andrew Engberg, McPherson, aged 66, died January 3, 1929, at Detroit of pneumonia following influenza. He was graduated from the Bellvue Hospital Medical College, 1886. He specialized in ear, eye and nose. Was instructor of nurses in his specialty at the McPherson County Hospital. Was a major in the Medical Corps and served as head of the surgical section in the Army Base Hospital at Otisville, N. Y., during the World War. Was a former secretary and president of the McPherson County Society, and a member of the State Society and a Fellow of the American Association.

17. Jacob Louis Everhardy, Leavenworth, aged 54, died January 23, 1929, of



caries of the spine. He was graduated from the University Medical College, Kansas City, Mo., 1897. He specialized in Internal Medicine. He was on the U. S. Pension Board and formerly County Health Officer. Was President of the Northeast Kansas Society, Secretary of the Leavenworth County Society, formerly a vice president of the State Society, and a Fellow of the American Association.

18. Andrew H. Fabrique, Wichita, aged 92, died May 10, 1928, of cerebral thrombosis. He was graduated from the Northwestern University Medical School, Chicago, 1905. He was a Civil War veteran rising from the rank of private to major. Was one of the prominent pioneer physicians in Wichita starting the hospital, which afterward became the St. Francis. He practiced more than half a century, retiring on account of advanced age. He was a member of the State and American Medical Societies.

19. Harry Bowman Felty, Abilene, aged 59, committed suicide April 11, 1929. He was graduated from the Jefferson Medical College, Philadelphia, 1882. Had practiced in Abilene more than thirty-five years. Was not a member of the State Society.

20. George Richard Gage, Hutchinson, aged 59, died April 3, 1929. He was graduated from the Kansas University Medical College, Rosedale, 1897. Was a World War veteran having had charge of the Hospital at Camp Logan, Houston, Texas. He was a member of the State Society and a Fellow of the American Association.

21. Elliott W. Gordon, Edwardsville, aged 71, died June 12, 1928, at the Grandview Sanitarium, Kansas City, of hypostatic pneumonia. He was graduated from the College of Physicians and Surgeons, Medical Department of Kansas University, Kansas City, 1885. Was not a member of the State Society.

22. Moses Lawrence Grazier, Baxter Springs, aged 82, died February 13, 1929, of endocarditis. Was not a graduate of a medical school, but was said to have been licensed about thirty years. Was not a member of the State Society.

23. Harry James Harker, Horton,

aged 46, died April 8, 1929, at the Trinity Lutheran Hospital, Kansas City, of blood poisoning. He was graduated from the University Medical College, Kansas City, Mo., 1909. Had practiced in Horton twenty years. Was president of the Board of Education for eight years and had just been re-elected for another term. Was surgeon for the Rock Island. Was a member of the State Society and a Fellow of the American Association.

24. William Henry Harris, Kiowa, aged 70, died January 9, 1929, of nephritis. He was graduated from the American Medical College, St. Louis, 1881. Was not a member of the State Society.

25. Franklin Perry Hatfield, Olathe, aged 66, died October 17, 1928, of fibrosis of right lung following pleurisy with effusion. He was graduated from the Eclectic Medical Institute, Cincinnati, 1886. He was formerly County Health Officer, and a member of the State Board of Medical Examination and Registration. Was not a member of the State Society.

26. Linnie C. Haynes, Macksville, aged 52, died April 22, 1928, of uremic poisoning. He was graduated from the College of Physicians and Surgeons, Kansas City, Kansas, 1902. Was a member of the State and American Societies.

27. William Conyers Herring, Parsons, aged 67, died April 15, 1929, of angina pectoris. He was graduated from the New York University Medical College, 1890. He specialized in Roentgenology. Was a member of the State and American Societies.

28. John Thomas Holman, Garland, aged 81, died November 30, 1928, of apoplexy. He was graduated from the University of Louisville School of Medicine, 1892. Was a member of the State Society, and a Fellow of the American Association.

29. Eusebius P. Horn, Dighton, aged 76, died February 7, 1929, of heart block. No other information obtainable.

30. Cyrus Elbert Hunt, Wichita, aged 88, died January 6, 1929, of bronchopneumonia. He was graduated from the Detroit Medical College, 1870. He was a Civil War veteran and retired.

31. William Milton Hunter, Wichita,

aged 70, died July 13, 1928, of apoplexy. No other information obtainable.

32. John Higbee Johnson, Wichita, aged 68, died September 4, 1928, of paralytic ileus following perforated appendix. He was graduated from the Kansas City Medical College, 1890. He was on the faculty of the College of Physicians and Surgeons at Kansas City, and at the Western Dental College. He formerly practiced at Coffeyville. He was a member of the State Society.

33. George W. Lee, Yates Center, aged 61, died January 19, 1929, of broncho-pneumonia at St. Francis Hospital, Wichita. He was graduated from the Marion Sims College of Medicine, St. Louis, 1892, and of the College of Physicians and Surgeons, Keokuk, 1894. He was a member of the State and American Societies.

34. William E. H. Lemon, Olathe, aged 82, died July 20, 1928, of coronary occlusion. He was graduated from the Homeopathic Medical College of Missouri, St. Louis, 1874. He came to Olathe in 1883 (43 years), and practiced there until his retirement four years ago when he was elected Justice of the Peace. He was not a member of the State Society.

35. Charles Henry Lester, Olathe, aged 71, died February 3, 1929, of acute myocarditis. He was graduated from the Kansas City Medical College, 1879, and from the Bellvue Hospital Medical College, 1880. He specialized in Children's Diseases and practiced in Kansas City until he removed to Olathe and joined the Johnson County and State Society in 1922.

36. Sebree Samuel McGinnis, Scott City, aged 44, was killed in an airplane crash, April 4, 1929. He was graduated from the Barnes Medical College, St. Louis, 1909. He had served a term as Representative in the State Legislature in 1915. Was a member of the State Society, and a Fellow of the American Association.

37. Ira L. Maxson, Larned, aged 58, died March 4, 1929, of diabetes at Wichita. He was graduated from the Hahnemann Medical College, Kansas City, Mo., 1901. He had been connected with

the Santa Fe Hospital at Mulvane until he joined the staff of the State Hospital at Larned.

38. Anton Frederick Meyer, Cassoday, aged 70, died May 9, 1928, of apoplexy. He was graduated from the Independent Medical College, Chicago, 1891. Was not a member of the State Society.

39. Mathew R. Mitchell, Topeka, aged 93, died the first of the year (Feb. Kan. Jour. "recently") at Avon Park, Fla. He was graduated from the Ohio Medical College, 1868. Had practiced in Topeka from 1875 to his retirement 1917 (52 years). He was a Civil War veteran, being a major in the Medical Corps. Was a charter member of the Shawnee County Society and a member of the State Society.

40. Charles Finley Montee, Pittsburg, aged 57, died May 30, 1928, of pernicious anemia. He was graduated from the Barnes Medical College, St. Louis, 1903. Had been City Health Officer and County Coroner and was a member of the State Society.

41. Robert Benjamine Morris, Wichita, aged 55, died August 28, 1928, of pulmonary tuberculosis. He was graduated from the University of Nashville Medical College, 1896. Was on the staff of the U. S. Veterans' Hospital.

42. John P. Norvall, Farlington, aged 73, died March 1, 1929, of broncho-pneumonia. No other information.

43. Henry Plumb, Pleasanton, aged 96, died January 4, 1929, at Orlando, Fla., of valvular heart disease. He was graduated from the Yale University School of Medicine, 1861. He was a Civil War veteran, having been a divisional chief surgeon in the Union army. Was a pioneer physician in Pleasanton, sixty years ago, and had been mayor and postmaster. He was retired, and spent his winters in Florida.

44. Henry Reding, Lawrence, aged 67, was found dead in bed of heart disease, July 4, 1928. He was graduated from the Missouri Medical College, St. Louis, 1888. Was a member of the State Society and a Fellow of the American Association.

45. William H. Rees, Pleasanton, aged 85, died December 17, 1928 of pneumonia.



He was graduated from the College of Physicians and Surgeons, Keokuk, 1883. Was retired.

46. David W. Reid, Lebo, aged 83, died January 16, 1929, at Wichita, of angina pectoris. He was graduated from the Medico-Chirurgical College, Kansas City, 1900.

47. Charles William Schwartz, Topeka, aged 57, died August 17, 1928, of splenic anemia. He was graduated from the Northwestern University Medical School, Chicago, 1897. Was a member of the State Society, and a Fellow of the American Association.

48. James Henry Seaton, Newton, aged 89, died August 7, 1928, at Bethel Hospital, of cerebral hemorrhage. He was graduated from the Kentucky School of Medicine, Louisville, 1866. He was not a member of the State nor American Societies.

49. Lawrence Theodore Smith, Newton, aged 61, died October 13, 1928, of cirrhosis of the liver. He was graduated from the Northwestern University Medical School, Chicago, 1898. He was a World War veteran. Was a member of the State Society and a Fellow of the American Association.

50. Martin Luther Somers, Altoona, aged 76, died January 17, 1928, of cerebral hemorrhage. He was graduated from the Hospital Medical College, Louisville, 1884. Was a member of the State and American Societies.

51. Henry McMarken Stansbury, Coffeyville, aged 82, died December 12, 1928, of carcinoma of the liver. He was licensed in 1902. Was one of the pioneer physicians and former mayor of that place. Was not a member of the State Society.

52. Oliver J. Taylor, Wichita, aged 74, died May 15, 1928, of cerebral hemorrhage at Indianapolis. He was graduated from the Hannemann Medical College and Hospital, 1890. He had been a member of the City Council. Was not a member of the State Society.

53. Olon Carl Thomas, Spring Hill, aged 54, died April 17, 1928, of septic endocarditis. He was graduated from the Missouri Medical College, Kansas City, 1894. He was a member of the

State Society, and a Fellow of the American Association.

54. Ray Marshall Tinney, Norton, aged 52, died of carcinoma of the stomach, November 24, 1928. He was graduated from the Kansas City Medical College, 1903. Was a World War veteran, serving as captain in the Medical Corps, and had been state vice councillor of the American Legion. He was a member of the State Society.

55. Lorenzo Dan Tout, Cedarvale, aged 72, died July 14, 1928, of heart disease. He was not a graduate of a medical school, but was licensed to practice in 1901. Was not a member of the State Society.

56. Charles Whiteside Trice, Wichita, aged 74, died July 7, 1928, of carcinoma of the prostate. He was graduated from the National University of Arts and Sciences, St. Louis, 1882 and from the Eclectic Medical College, Cincinnati, 1888. Was not in practice.

57. Dewitt Clinton Tyler, Clifton, aged 78, died December 3, 1928, of cancer, at Kansas City, Mo. He was graduated from the Rush Medical College, Chicago, 1881. Was formerly on the School Board, and a member of the City Council. Had been a surgeon for the Union Pacific Railroad many years. He was not a member of the State nor American Societies.

58. James Smith Watt, Falun, aged 78, died April 5, 1929, of cerebral hemorrhage at Kansas City, Kansas. He was graduated from the Jefferson Medical College, Philadelphia, 1881, and the Herring Medical College, Chicago, 1900. He had been County Coroner of Pottawatomie County and a member of the State Society. Was retired.

59. David Andrew White, Stafford, aged 81, died June 13, 1928, of hypostatic pneumonia. He was graduated from the Medical College of Ohio, Cincinnati, 1875. Was retired.

60. William Wesley Wineinger, Dighton, aged 39, was murdered by bandits when called to attend one of them, May 24, 1928. He was graduated from the University of Kansas School of Medicine, Rosedale, 1924. Was a member of

the State Society, and a Fellow of the American Association.

61. Thomas Winston, Lawrence, aged 98, died May 14, 1928, of lobar pneumonia. He was graduated from the Rush Medical College, Chicago, 1858. Was a Civil War veteran and retired.

62. James Furman Youmans, Wichita, aged 80, died February 7, 1929, of cerebral hemorrhage. He was graduated from the Bennet College of Eclectic Medicine and Surgery, 1878.

63. Alvis Clayton Zimmerman, Perry, aged 54, died December 21, 1928, of broncho-pneumonia, at Topeka. He was graduated from the University Medical College, Kansas City, Mo., 1897. Was district surgeon for the Union Pacific Railroad and on the staff of the St. Francis Hospital. Was not a member of the State Society.

#### DELAYED REPORT FROM THE YEAR 1928

1. Robert A. Leith, Irving, aged 62, died at Pasadena, Calif., of heart disease, March 24, 1928. He was graduated from the Medical Department of the University of the City of New York, 1894. Was retired and not a member of the State nor American Medical Societies.

2. John Hamilton Hoover, Haddam, aged 74, died April 3, 1928. He was graduated from the St. Joseph Medical College, 1886. Was a member of the State Society.

3. Henry A. Barber, Lenexa, aged 86, died of carcinoma of the liver, April 4, 1928. He was graduated from the Eclectic Medical Institute, Cincinnati, 1868. Was retired and not a member of the State nor American Societies.

4. John L. Heller, Topeka, aged 72, died of cerebral hemorrhage, April 13, 1928. He was not a graduate of a medical school, but was licensed in 1901. Was not a member of the State nor the American Medical Societies.

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#### Some Observations on Cancer Problem

L. S. NELSON, M.D., Salina

There is a challenge to every man engaged in healing the sick in regard to cancer and this challenge is occasioned in my opinion by two factors. The first

of these is the fact that as yet science has been unable to determine the cause of these serious tumors and the second is proven fact that the incidence is increasing among white peoples. Sweeden offers a glaring example of this fact. In 1924 one hundred and thirteen deaths from cancer were recorded per one hundred thousand population. This in a small country of six million people mostly natives where careful mortuary tables are kept shows an actual though slightly indefinite increase over previous years. It seems beyond doubt that now the argument between those who thought the increase due to improved diagnostic measures plus better records and those who thought there is an actual increase is settled in favor of the latter group.

The history of the cancer problem is replete for the most part with procedures for improved diagnosis. By the time Laennec in 1815 invented the stethoscope more independent thinkers were leaving the old Galenic School which had so cramped scientific investigation. The thought that nothing new could be discovered or taught except as the Master Galen had thought and taught was fast dying. It is said that Laennec never realized that he had added one of the most important steps ever taken in the careful use of our special senses in making a diagnosis. That of course occurred near the beginning of a chain of great events in medical history and we worship still at the feet of Pare, Sydenham, Harvey, Pasteur, Koch and many others. All of the additions and contributions down through the years have brought us to a place where every means available must be used, if we would maintain our tradition to be precise in the diagnosis of cancer.

Causation theories have not essentially changed in principle over the last fourth century but new evidences have been added and subtracted from each. Three years ago Guy and Bernard, in London, thought they had produced both a toxin and a virus which working together would produce animal cancer. If this work had stood the scientific tests to which it was subjected it would have coupled two of the old theories together.



The bacterial and chemical causes which have been variously named. The old Cohnheim theory of embryonic islands in tissue is still held by some authorities. Prof. Oscar Frankel has histological sections of cervical tissue showing what does appear to be embryonic tissue undergoing transition into active cancer cells. He believes with others that this is the real cause of cancer. The irritation theory has been most carefully studied because of the similarity of animal cancer to human cancer and the production of epithelial cancer in white mice with soot. The advocates of this theory have much evidence in their favor and yet their claims will not stand every test. Blair Bell of Leeds probably leans more toward the chemical theory because of the good results he has achieved, particularly in cancer of the stomach, by the use of colloidal lead. I am convinced that he has eased the suffering of many cancer patients by its use.

The vast amount of research which has been and is now being done to determine the cause of cancer has served some good purposes though it has as yet failed to achieve the ultimate. It has stayed the pen of most over zealous individuals in proclaiming the cause and a cure because they know careful checks will be made. The laity is learning that the cause is being sought by careful, well trained scientists and that when results arrive the public will benefit. The time will come when fewer people will accept the fairy tale from Savannah, Missonri, and similar places.

At the present time it cannot be too frequently reiterated that the chief cancer problem confronting any medical man today, as he goes about his daily rounds, is the diagnosis. This is true because early treatment offers the best hope of recovery. It cannot be too frequently recalled that we should accept as one major responsibility to our patients the use of all our special senses applicable in determining the nature of any neoplasm. We need not become lost in a maze of histological classification concerning the morphology of the particular cells of any tumor. We have emerged from that misty vale and while any

knowledge of that nature is highly commendable, our problem is much more narrow though often very difficult. We have the sense of sight and the sense of touch to help answer the question of benignancy or malignancy. Let us permit the pathologist to classify for the prognostic value therein but expect him to answer first the principal question in all accessible tumors which are suspicious.

A case report is applicable from our own experience.

Miss P. came to us November 3, 1926. Age 45. Single. Occupation, small amount of housework.

Chief complaint: Small hard tumor mass in right breast.

Family history: Father died at the age of seventy-six of senility. Mother living and well at the age of eighty-four. One sister living and well.

Past history: During her childhood she had all of the exanthemata some rather severely but without complications. She never considered herself healthy and had sought health from all sorts of quacks. Never had a serious infectious disease.

Present illness: The mass was noticed eight months prior to her entrance here and she thought it had increased somewhat in size.

Physical findings: Pulse 90, temp. 98.6°, wt. 100, height 62 inches. B. P., 110-60. Head and neck: Negative except for some suspicious teeth. The fact that she had almost no gray hair was noticed.

Thyroid was not palpable and there were a few anterior cervical glands palpable.

Chest: Breasts quite small. In the upper left quadrant of the right breast there was a single hard movable mass the size of a small pecan and the same shape as a pecan. No sloughing. No retraction of nipple. No evidence of nodules on or near. No axillary adenitis palpable. Aside from being underweight her physical findings were otherwise essentially negative. Laboratory findings prior to operation were essentially negative. On November the thirteenth the tumor was removed easily under local anesthesia and sent to the laboratory. November sixteenth, we received a de-

tailed account of the histological appearance of the section with a diagnosis of adenocarcinoma of scirrhus type and on November 27 the breast was amputated, the pectoralis major removed and the lymphatics dissected from the axillary space. December 14 the patient left the hospital without any complication. One feature of her after care may be of sufficient interest to warrant relating. She had labored for years under a group of what I choose to call "Food phobias," the foundation of which she had received from various types of practitioners. We secured her co-operation in the matter of forced feeding and she had gained five pounds when she left the hospital.

The comment I wish to make here is that I have never been so completely fooled on a tumor in my life. I was so sure that this was merely a cystadenoma of benign type in a nulliparous woman that had it not been that I had recently read an article of Dr. Bloodgood's in which he emphasized the dangers of being too sure without sections, I would have sent this woman out happy—yes for a time—thinking she had nothing of importance, but to certain and terrible death. This patient now weighs one hundred and twenty pounds and has suffered no recurrence according to a report received last November.

To say that we do not know the cause of cancer is not to say that total ignorance prevails, particularly concerning types, anatomical locations, metastatic predilections and treatments.

Concerning treatments it is agreed that with an early diagnosis and an accessible neoplasm, and obviously these are more easily recognized early, surgical eradication offers the happiest termination. Such conditions, however, cannot always prevail and we have in our armanentarium other means of helping many of these unfortunate people. The colloidal metal treatment of Dr. Blair Bell has already been mentioned and *x*-ray has found its place in helping certain types, particularly those of the skin. In this country radium is just now coming into its own and the latest impetus has been given it by the showing of the *canti* film.

This was shown first in this country at the meeting of the Radiological Society of North America in Chicago on December 5. It shows by slow motion moving pictures, cell mitosis, both normal and cancerous, magnified so that on the screen a single cell has a diameter of a foot. By contract the wild proliferation of cancer cells is then shown remarkably slowed by the action of radium. Cancers of the cervix which are so prone to early metastasis and are so often inoperable are most ideal for radiation though it is helpfully used in other regions also. This film was made after most careful preparation not only of the live tissue of animal cancer used but also the painstaking elimination of vibration with concrete and sponge rubber pillar on which to mount the equipment.

After handling the subject of cancer in such brief and general way one would feel like adding a word of prophecy concerning the future. I have sufficient faith in the industry of science and the spirit which lives in the hearts of scientists to believe that the cause of cancer will eventually be found. It may be that several factors enter into the causation. Guy and Bernard thought they had proved that when a certain toxin which they could produce was present in the blood that a cultured virus also produced from cultures made from living cancers injected therein would produce cancer in a high percentage of cases. The difficulty was that production resulted in a percentage only and not in all cases. New theories may be added to link with the old but evidence now points toward the several factor theory as to cause. It is to be hoped that we may live to see results along this line because in all probability a real cure if possible at all will depend upon the cause.

I have made no effort to add anything new to the already flooded literature on cancer but have only reiterated some of the points which to me seem important. Chief in importance among them is the careful examination, even sectioning when in doubt of every accessible suspicious tumor.

In closing I can think of no more appropriate admonition for us in applying



this oft repeated advice than the fine little paragraph of Wm. Osler's in his "Aequanimitas" "Cultivate then gentleman, such a judicious measure of obtuseness as will enable you to meet the exigencies of practice with firmness and courage, without, at the same time hardening the human heart by which we live."

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## KANSAS MEDICAL LABORATORY ASSOCIATION

### Examination of Sputum for Tubercle Bacilli

MARTIN DUPRAY, B.S., M.S.,  
Hutchinson, Kansas.

Tubercle bacilli, while readily demonstrated in the sputum of some tuberculous patients, are not found with any degree of uniformity in the sputum of patients in certain stages of tuberculosis of the lungs. With the presence of only closed fibrous lesions, and the absence of ulcerating lesions, tubercle bacilli are very rarely found by any method. With mild ulcerative lesions the demonstration of the tubercle bacilli is more frequent, but still not constant because of the varying number of bacilli present from hour to hour and day to day, and their dilution by and dispersion in varying amounts of lung secretion.

For these reasons, negative laboratory results on sputum are of little importance in the diagnosis of tuberculosis. Any possible refinements in laboratory technique to increase the percentage of positive findings are desirable.

Let us first consider actual staining methods.

The old stand-by is the Ziehl-Neelson method. This consists of prolonged hot staining of fixed smears of sputum with Ziehl's carbol-fuchsin stain, decolorization with acid-alcohol, and counterstaining with methylene blue. The smears are examined microscopically for the typical red bacilli in a blue stained exudate. The stain is well known and standard. There is, however, much variation in different laboratories as to the acid-alcohol used for decolorization.

Brereton, at the University of Wisconsin

in 1913, after an exhaustive study of many acid-alcohol mixtures, showed that 3 volumes per cent of nitric acid in 70 volumes per cent of alcohol was the mixture of choice. This mixture does not decolorize the tubercle bacilli, but usually does decolorize most of the non-pathogenic acid-fast bacteria that might be confusing. This is not of great importance in the case of sputum, where such organisms are seldom found, but is of considerable value with urine sediments and other materials in which such organisms are often found.

The formulae for the reagents follow. Ziehl's carbol-fuchsin, S.A.B.<sup>1</sup>

- A. Fuchsin, basic, dry dye, 0.3 gm.  
Alcohol, 95% (purified methyl alcohol may be substituted), 10 cc.
- B. Phenol, 5 gm.  
Distilled water, 95 cc.  
Mix A and B.

#### Acid alcohol mixture<sup>2</sup>

- Alcohol, 95% (purified methyl alcohol may be substituted), 70 cc.
- Distilled water, 30 cc.
- Nitric acid, C. P., Concentrated, 3 cc.

#### Methylene Blue Loeffler's alkaline<sup>1</sup>

- A. Methylene blue, dry dye, 0.3 gm.  
Alcohol, 95% (purified methyl alcohol may be substituted), 30 cc.
- B. Potassium hydroxide solution, 0.01%, 100 cc.

Mix A and B.

#### Staining procedure.

Prepare smears on slides and fix.

Stain with Ziehl's carbol-fuchsin, steaming, for 3 to 5 minutes.

Wash off stain solution with water.

Decolorize with the acid-alcohol until only a faint pink remains.

Wash out the acid-alcohol thoroughly with water.

Counterstain with Loeffler's alkaline methylene blue, a few seconds.

Wash with water.

Dry and examine. Tubercle bacilli are stained red, exudate and other bacteria are blue.

This stain has two advantages; first, the contrast is excellent and the identification of the tubercle bacilli is easy; and second, it allows the identification and reporting of other bacteria present,

which is often of considerable value to the clinician. Its chief disadvantage is that only comparatively thin smears may be examined.

The Schulte-Tigges method<sup>3</sup> is a very excellent staining method for very thick smears. It consists of staining as above with Ziehl's carbol-fuchsin, decolorizing with sodium sulphite solution, and counterstaining with picric acid. The reagents required are as follows:

Ziehl's carbol-fuchsin. See above.

Sodium sulphite decolorizer.

Sodium sulphite, 10 gm.

Distilled water, 100 cc.

This solution should be prepared fresh at least once each week.

Picric acid solution. A saturated solution of picric acid in distilled water. Staining procedure.

Prepare thick smears on slides. Dry and fix.

Stain with Ziehl's carbol-fuchsin, steaming, 3 to 5 minutes.

Wash with water.

Decolorize with the sodium sulphite solution until colorless or faintly pink.

Wash with water.

Counterstain with the saturated picric acid solution, a few seconds.

Wash with water.

Dry and examine. The tubercle bacilli are pink to black. The background is pinkish yellow.

The advantage of this method is that very thick smears may be examined, as the process renders the smears translucent, and the background is very faintly stained. Tubercle bacilli may often be demonstrated by this method, when scarce, after the Ziehl-Neelson method has failed. The disadvantage of the method is that it only shows the tubercle bacilli.

Harrison's<sup>4</sup> formol-fuchsin method is another staining method for thick smears. It has no particular advantage over the Schulte-Tigges method, but is a good substitute, and is given below.

The reagents required follow.

Formol-fuchsin stain.

1 gm. of basic fuchsin is added to 100 cc. of distilled water and the solution gently heated to 100° C.

The solution is then filtered. To 75 cc. of the filtrate are added 10 cc. of 37% formaldehyde solution, 10 cc. of 5% aqueous phenol solution, and 5 cc. of glycerine. The mixture is placed in a glass stoppered bottle and allowed to stand two weeks. Polymerization takes place, with the production of a dark purple stain. It does not deteriorate.

Decolorizer.

Alcohol, 95%, 85 cc.

Sulphuric acid, C. P., concentrated, 15 cc.

Counterstain.

Saturated solution of picric acid in 95% alcohol, 95 cc.

Lugol's iodine solution, 5 cc.

Staining procedure.

Prepare thick smears on slides, dry and fix.

Stain with the formol-fuchsin stain, steaming, 3 to 5 minutes.

Wash with water.

Decolorize with the acid alcohol.

Wash with water.

Counterstain with the picric acid-iodine solution, 20 to 30 seconds.

Wash with water, dry and examine.

The tubercle bacilli appear as brownish black rods against a brownish yellow background.

By simple decolorization with plain alcohol instead of acid-alcohol, Vincent's angina spirals, most gram positive organisms, and spores, may be demonstrated.

#### CONCENTRATION METHODS

It is largely in the use of concentration methods that the hope of increasing the efficiency of sputum examinations lies.

The simplest of the concentration methods is that of Black<sup>5</sup>. In this procedure the sputum specimen is whipped for 1 minute with a wooden applicator around the end of which a bit of absorbent cotton has been tightly wrapped. The smears are then prepared on slides with this swab, rolling and squeezing out as much of the absorbed material as possible. The tubercle bacilli adhere to the cotton and are collected on the swab, which then gives concentrated smears. Tests in parallel with this method and



simple smears, on a considerable number of specimens, showed an average concentration of tubercle bacilli of about 5 to 1 in those specimens showing bacilli by simple smear, and the whipping method demonstrated the bacilli in nearly 5 per cent of specimens negative by simple smear. The Black method is simple and rapid, and is not dangerous to the technician.

Any of the staining methods may be used on smears prepared by the Black method, but as the smears are usually thin, the Ziehl-Neelson method is generally the one of choice.

Another method, not dangerous to the technician, and of equal or greater efficiency than the Black method, is to take the sputum, in original bottle, or if necessary, pour into a narrow test tube, and place in the autoclav and sterilize for 15 or 20 minutes at 15 lbs. steam pressure. This does not affect the staining properties of the tubercle bacillus. Mucus is liquified, and proteins coagulated. The coagulum entraps the bacilli, and settles out, carrying the bacilli down with it. The supernatant liquid is poured off (after centrifugation, if the coagulum is slight), and the sediment smeared and stained. Any of the staining methods may be used. The disadvantage of the method is the time required.

The old, and best known concentration method is the antiformin method. There are several variations in details as recommended by various authors, but the following is a good procedure. Pour about 5 cc. of the sputum into a conical centrifuge tube, and add 8 to 10 cc. of antiformin. Stir with a wooden applicator until the evolution of gas has ceased. Because of the gas evolved, some care is required to avoid spattering and consequent danger to the technician. The antiformin largely dissolves the pus, mucus and albuminous matter, leaving a small sediment. Allow the tube to stand for 5 minutes, and centrifugate. Pour off the supernatant liquid, add 10 or 12 cc. of distilled water, stir up the sediment and centrifugate. Again pour off the liquid, add more water, stir up and centrifugate. Pour off the last wash water, make smears from the remaining sedi-

ment. Stain by which ever method preferred.

This method gives the best concentration of any of the methods here described. Its disadvantages are the time and trouble required, its messiness, and the possible danger to the technician. Also, unless a direct smear is made, no information as to organisms other than tubercle bacilli is obtained.

A substitute for the antiformin method of concentration is to use a 20 per cent solution of sodium carbonate in place of the antiformin. The procedure is the same as described for antiformin. The evolution of gas is very slight, and the danger to the technician is less. The concentration, while good, is somewhat less than with antiformin.

In summary, I would recommend for rapid routine use, the Black whipping method of concentration, followed by the Ziehl-Neelson stain, and the nitric acid alcohol as decolorizer. The other methods, singly or in combination, may be used in special cases.

Readers interested in cultural methods for tubercle bacilli, as a substitute for, or companion to guinea pig inoculation, are cited to the sulphuric acid crystal violet potato cylinder method of Corper and Uyei<sup>6</sup>.

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#### TUBERCULOSIS ABSTRACTS

J. Burns Amberson, Jr., who contributes this number, is Physician-in-Chief of Loomis Sanatorium, established in 1896 by Dr. Alfred Lee Loomis and his friends. Dr. Loomis was Trudeau's physician, and it was he who advised him to go to the Adirondacks. Dr. Amberson's method of describing physical signs in pulmonary tuberculosis is unique. Instead of listing the many and sundry signs that may make their appearance during the course of the disease, he pictures for his readers the

pathologic mechanisms which account for the discoverable phenomena; he traces the development of the pathology from



Loomis Sanatorium, original farm house before remodeling

its early beginnings through its successive stages and shows how these changes affect the physical findings.

### Physical Signs in Pulmonary Tuberculosis

Skill in interpreting physical signs of tuberculosis lesions in the lungs depends on an understanding of the underlying pathological mechanism. Examiners encounter many variations in different cases. Some of these are not easily explainable, but most of them should convey definite information if one is accustomed to construct in his mind a picture of pathological anatomy as he moves his stethoscope over the chest. The variations are best explained by tracing a lesion through the stages of its development and advancement to necrosis on one hand, and through its gradual healing on the other.

#### The Early Stage

Most patients falling sick with pulmonary tuberculosis and presenting definite physical signs of its presence have a lesion occupying an area at least one or two centimeters in diameter. It is common knowledge that many have widely extensive lesions before they are aware of the presence of the disease, but for purposes of illustration the small lesion will be considered.

In its first stages, this lesion presents the appearance of an intact tuberculous nodule or of a small patch of tuberculous pneumonia. If it is situated deep within the lung or at some poorly accessible point beneath heavy bony or muscular

structures, it may be impossible of detection by physical examination. But such instances are not common, and the great majority of lesions will declare themselves if the examiner is competent and painstaking. On percussion, no definite abnormality may be made out, and the only change in breath sounds may be a diminution in intensity due to decreased aeration of the diseased part. Indeed, slight deviations from the normal in the pulmonary resonance and in voice and breath sounds are so common in healthy persons that, alone, these changes are not of great diagnostic value. But the presence of rales in addition, or even alone, is of the highest significance.

In the early stage, the amount of moisture associated with the tuberculous deposit is not much; consequently, the rales are fine, are confined to a small area, and sometimes one must listen sharply to make sure of them. Indeed, they may not be detectable unless auscultation is performed with the patient coughing and thus setting in motion the minimal secretion that gives rise to the *rale* (rattle). They persist and do not clear away as the patient coughs. This finding warrants the presumption of pulmonary disease, probably tuberculous, unless further investigation explains the abnormality on some other basis. A properly exposed x-ray film should show the lesion and corroborate the diagnosis. At this stage, the sputum often is negative for tubercle bacilli because the tuberculous deposit has not yet ulcerated and discharged its germ-laden contents into a bronchus.

#### Caseation and Necrosis

As the lesion grows older and more active, it becomes more dense. Thus, the percussion changes become more obvious, and more decided alterations in voice and breath sounds may be detected. At the same time, the center of the mass goes on to caseation and liquefaction necrosis. This means more moisture through which the air currents must pass; consequently, the rales are definitely more numerous and more moist. The liquefied areas empty their contents



into bronchi, leaving multiple, tiny, honeycombed cavities, and, therefore, the rales become moderately coarse and sometimes bubbling, as distinguished from the fine crepitations of the earlier stage. About the periphery of the process, the rales may still be fine because necrosis may not have occurred there.

### Excavation

The small tuberculous deposit often excavates completely, leaving a hole one or two centimeters in diameter. The resulting cavity wall may be very thin, flaccid, and surrounded by almost normal lung tissue. Because of this peculiarity of structure, it does not constitute a good resonating chamber and, therefore, does not give rise to the changes in percussion note and breath and voice sounds so characteristic of the cavity surrounded by consolidation or by a stiff, fibrous wall. Often this fresh thin-walled cavity produces rales of a suggestively bubbling or consonating quality. If one does not appreciate the significance of such rales, he will miss most cavities, because most of them do not produce the classical text-book signs. A few "cavities" are silent in that none of these signs can be elicited.

### Healing

Tuberculous deposits may heal by resolution or fibrosis; usually by a combination of the two. Cavities sometimes become shrunken or even obliterated by the contraction of surrounding connective tissue. Healing may thus advance to the point where the patient is entirely free of symptoms; if healing is so maintained, the disease will not relapse. Nevertheless, the patient usually bears definite scars permanently, and physical examination will reveal them. Permanent alterations in breath and voice sounds and in thoracic resonance depends on the extent, density and degree of contraction of the fibrosis. Most patients who have had active tuberculosis and recovered from it, never entirely lose their rales, even though they may remain perfectly well symptomatically. The rales are usually small and not very moist and may be detectable for years over the densest part of the old lesion.

The first examination of a patient may reveal tuberculosis in some stage of quiescence and healing. Physical signs may be of uncertain value in determining the need for treatment, and in these cases additional evidence must be gathered from present symptomatology, sputum and *x-ray* examination and perhaps from a period of careful observation.

Little has been said about the gross changes in physical signs, these being self-evident as a rule. The location of the abnormal findings has a diagnostic bearing. Most often they are in the upper third of the chest. Apical rales have always been regarded of greatest significance, but often they are below the apex. In a considerable group of cases, the earliest sign is persistent fine rales in the upper third of the chest but below the level of the clavicle, and these should be taken just as seriously as apical rales. Tuberculosis at the base of the lung is not extremely rare, and adventitious basal signs should suggest this possibility when symptoms arouse suspicion.

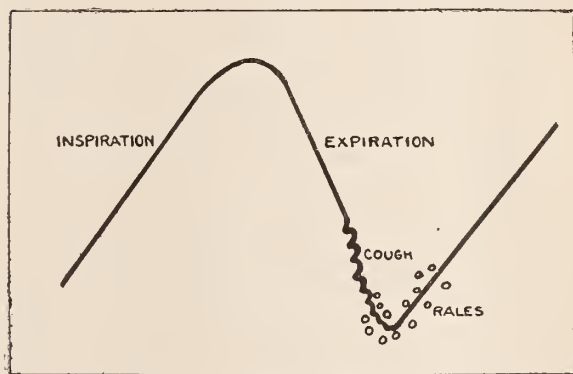


Diagram illustrating rales elicited by expiratory cough

Of all abnormal signs in pulmonary tuberculosis, the most important is rales. Yet they will be missed in most of the early cases unless the patient's chest is stripped for examination and *unless the examiner, while he auscultates the chest, instructs the patient to cough at the end of each expiration.*

In all instances in which the physical examination reveals definitely abnormal signs in the lungs, an *x-ray* photograph should be made to substantiate the diag-

nosis. In patients with suggestive symptoms and negative physical signs, a radiograph should also be made, remembering that some early lesions can be discovered only in this way. Only in persons who are free of symptoms suggestive of tuberculosis and whose chests are normal on careful physical examination is it reasonable to omit the radiograph.

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### American Public Health Association

#### SEDGWICK MEDAL AWARD

The American Public Health Association announces that the first award of the Sedgwick Memorial Medal will be considered in 1929. This award was established in honor of the late Professor William Thompson Sedgwick, a former President of the American Public Health Association. The fund which provides the medal was raised by popular subscription from Professor Sedgwick's former students and friends. It is to be awarded for distinguished service in public health.

Except for the fact that it is limited to the recognition of service in the field of public health there is no restriction as to the special line of service that will be considered. Administration, research, education, technical service and all other specialties in the public health profession will receive equal consideration. No limitations as to age, sex or residence have been fixed, though only candidates who are nationals of the countries in the American Public Health Association—at present, United States, Canada, Cuba and Mexico are eligible.

The committee of the Association which has this matter in charge is composed of:

Mr. Homer N. Calver, Secretary  
 Dr. Charles V. Chapin  
 Dr. Lee K. Frankel  
 Professor E. O. Jordan  
 Dr. George W. McCoy  
 Dr. M. P. Ravenel  
 Dr. M. J. Rosenau, Chairman  
 Mr. Robert Spurr Weston.

The committee will not consider direct applications from candidates, but asks

for nominations, giving the information suggested in the accompanying form. Nominations should be addressed to the Secretary, Homer N. Calver, 370 Seventh Avenue, New York, N. Y., and should include the following:

Name of the proposed candidate

Residence address

Business address

Age

Country of which the candidate is a citizen

Degrees held, date received and institutions from which received

Principal public health positions held

A brief description of the distinguished service performed because of which the candidate is recommended for consideration. This should include information as to when and where the work was done, the name of the organization or institution, if any, under whose auspices or in whose service the candidate worked, an estimation of the direct or indirect effect of the work measured in terms of life-saving or benefit to humanity. Descriptive articles, reports or similar data published or unpublished will be helpful to the committee. To be considered, the service must have been actually performed and not be merely a plan or suggestion.

Anonymous recommendations will not be considered and the committee reserves the right to refrain from making an award this year.—370 Seventh Avenue, New York City.

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### Removal

The Hoffman LaRoche Chemical Works of New York City, whose page advertisement appears in this number of the Journal now occupy a new plant in Nutley, New Jersey. They have also shortened the name to Hoffman-LaRoche, Inc.

✱ ✱ ✱

Tommy was meandering homeward much later than his usual suppertime. A friend of the family who happened to meet him said:

"Why, Tommy aren't you afraid you'll be late for supper?"

"Nope," replied Tommy, "I've got the meat."



# THE JOURNAL

of the

## Kansas Medical Society

W. E. McVEY, M. D. - - Editor

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### Publicity and Advertising

Advertising is one form of publicity but there is a tendency on the part of certain groups to distinguish as advertising all forms of publicity that are paid for, and as publicity all forms of advertising that can be gotten free of cost.

For the purposes of this discussion let us refer to all forms of publicity as advertising, and forget the bad odor formerly associated with that term. In contrast to the business of a few years ago, the advertising of today does, in the majority of publications, approximate the truth. In other words advertising is being made more and more respectable and reliable. Perhaps the field of advertising in which the least degree of improvement appears is that devoted to means and methods for preserving health and curing disease. And this is no doubt due to the fact that advertising managers of newspapers and magazines are poorly qualified to judge the merits of the claims made for a patent medicine or a "shimmy" machine. It is perhaps also due to the fact that the medical profession has rarely taken the trouble to en-

lighten either the advertising managers or the public as to the misrepresentations that are made.

It is unfortunately still true that a great many people acquire whatever information they have concerning diseases and their treatment from the advertisements in the newspapers. We can not blame them. The hundreds of dollars worth of junk accumulated in every doctor's office testifies to his credulity, to the readiness with which he accepts the advertised claims for things he has not thoroughly investigated. Nor can the newspapers be blamed very much. They have not been greatly encouraged to censor those advertisements very critically and have not been offered profitable material of a truthful character with which to fill the space. Until within the last few years the exponents of scientific medicine have made no effort to advertise its work, and even now the publicity efforts are confined to those publications that donate the space. This practically means the larger daily newspapers and a few popular magazines. However, the people who depend mostly upon the local and county newspapers are the ones that get most of the misinformation from the uncensored advertisements referred to above, and it is to this class of people that our efforts should be largely directed.

There is nothing in these remarks intended to convey the impression that the medical profession should sacrifice its proverbial dignity or that we should disregard in any particular our much venerated principles of ethics. Since there seems to be some misunderstanding as to what is said about advertising in the principles of ethics your careful attention is called to the following; which is Section 4 of Article 1.

"Solicitation of patients by physicians as individuals, or collectively in groups

by whatsoever names these be called, or by institutions or organizations, whether by circulars or advertisements, or by personal communications, is unprofessional. This does not prohibit ethical institutions from a legitimate advertisement of location, physical surroundings and special class—if any—of patients accommodated. It is equally unprofessional to procure patients by indirection through solicitors or agents of any kind, or by indirect advertisement, or by furnishing or inspiring newspaper or magazine comments concerning cases in which the physician has been or is concerned. All other like self-laudations defy the traditions and lower the tone of any profession and so are intolerable. The most worthy and effective advertisement possible, even for a young physician, and especially with his brother physicians, is the establishment of a well-merited reputation for professional ability and fidelity. This cannot be forced, but must be the outcome of character and conduct. The publication or circulation of ordinary simple business cards, being a matter of personal taste or local custom, and sometimes of convenience, is not *per se* improper. As implied, it is unprofessional to disregard local customs and offend recognized ideals in publishing or circulating such cards.

It is unprofessional to promise radical cures; to boast of cures and secret methods of treatment or remedies; to exhibit certificates of skill or of success in the treatment of diseases; or to employ any methods to gain the attention of the public for the purpose of obtaining patients."

That seems to be sufficiently explicit. The kind of advertising referred to in that section has no justification. It is not in harmony with modern advertising ethics any more than with medical ethics, for advertisements of that kind contain misrepresentations of fact or they are unfair to competitors, or both.

There is a field for advertising in which the medical profession can be ethical, promote the service of scientific medicine, and help the people to a better

understanding of diseases and their prevention and cure; and, what is more important at this time, can secure better co-operation with the newspapers.

For more than two years the Bureau of Public Relations of this society has been conducting a publicity campaign through the local and county newspapers of the state. A considerable number of them have very generously published the articles sent them and there are excellent reasons to believe that with more encouragement from the medical profession in their particular localities they would take an active interest in an educational campaign along the lines suggested.

It is with this idea in view that the Bureau is preparing an advertising campaign to be conducted in co-operation with the county societies in the state. Full details of the plan and nature of the advertisements will be communicated to the secretaries of county societies in the near future.

#### PERIODIC EXAMINATION

Although denying that "the Life Extension Institute is on the defensive before the medical profession of this country," Dr. Eugene Lyman Fish has endeavored to defend its organization, its activities and its policies, in an address before the medical Society of the County of New York. At least one of average intelligence would get that impression from reading it.

In defending its advertising campaign he says:

"*The Institute is advertising for the whole medical profession. We believe that for every person induced to come to the Institute, a hundred have gone to their family physicians as a result of the money we have spent in advertising. In the year 1928 approximately 100,000 people were advised after examination to go to the practicing profession for treatment.*"

Of course it would be quite as difficult



to refute that statement as to prove it. Even if it could be proven, it is doubtful if that is sufficient justification for the existence of such an institution. This is very frankly admitted in the following which also suggests that some questions may arise as to the character of the service given:

"As to the unfair competition with the general practitioner, the influence of the Institute's work is, as a matter of fact, exactly the reverse. I do not claim, however, that the existence of the Life Extension Institute is justified merely because it increases the income of physicians.

"Unless that increased income brings increased health and longevity to the people served, this would be contrary to the public interest; and anything that is contrary to the public interest is not fundamentally in the interest of the medical profession, whatever might be the immediate financial advantage.

"An insurance policyholder who recently was re-examined at the Institute, stated:

"It may be of interest to you to know that the result of my Life Extension Institute examination in January, 1927, has benefited the medical profession — 9 M.D.'s \$517; 2 dentists, \$132; laboratory service \$70; drugs, \$20."

"The Institute received \$5 for the service rendered. This is an example of the ruinous competition of the Institute with the medical profession!

"I recall the instance of a woman who came to the Institute for a health survey, and a pelvic condition was revealed requiring operation. She took her report to a prominent surgeon, on the advice of her physician, who operated and sent her husband a bill for \$2,000. The husband wrote me, asking if I thought the bill reasonable.

"I replied that I could not pass on that question; that it depended altogether on what value he placed on his wife's life. The bill was paid.

"This is another example of the ruinous competition of the Institute with the medical profession. The Institute re-

ceived \$25 for the examination! This is not an exception but a common experience.

"Our records show that 50 per cent of the disabilities found on the first examination have been cleared by the time of the third examination. This could only be possible through the co-operation of the clinical profession. Inasmuch as approximately 100,000 people were advised, in 1928, to seek medical treatment, you can figure for yourselves what that means to the medical profession."

Referring to the first illustrative case, note that \$517 was paid to nine doctors. The natural conclusion is that if the examination had been properly made, at least if any sort of a diagnosis had been made, it would have been unnecessary to employ nine different doctors and spend \$70 for laboratory tests. But then he only had a five dollar examination. Apparently all he got was a suggestion that he had something he ought not have and had better go to some one who could find out what it was and relieve him of it. According to this man's statement, his experience with this Institute cost him \$744, but there is nothing in his report to indicate what, if any, was the value of his physical improvement.

In the next case cited the fee for the examination was \$25 and the family physician and the surgeon collected. \$2,000 From the statement made one is expected to infer that the condition found in this woman jeopardized her life. The question that arises here is whether the physician and the operating surgeon accepted the report of the examination made by the Institute or if they conducted an examination on their own part.

Just what is included in what is described as a "health survey" one may not say, but since the fee is \$25 it is probably more comprehensive than the examination for which a fee of five dollars was charged. It would be interesting to

know just how it is determined which applicants should have a five dollar examination and which the twenty-five dollar health survey.

Since the avowed purpose of this organization is to conduct periodic physical examinations of the apparently well, there should be some standard formula which would insure thoroughness, so that those who apply for examination may be told what, as well as if anything, is the matter with them. Since occasionally people who are apparently well, but who have serious pathologic conditions, do pass the cursory examinations required for insurance, these are not adequate for the purposes of periodic examinations. Such examinations yield a sufficiently fair average for insurance companies, but people who apply for examination to learn if there is anything wrong with them, expect more, are entitled to more and are charged for more, than an estimate of their life expectancy.

No practitioner would care to have one of his patients, whom he had very recently examined and pronounced well, develop a jaundice and suffer an operation for gall stones. However no general practitioner can conduct a thorough physical examination, with the required laboratory tests and roentgenograms, for twenty-five, or even fifty dollars and have anything left for his own time and trouble.

One might suggest that the approval of this Institute by the medical profession should not depend upon the character of the men who constitute its board of directors and other boards, nor upon the fact that an ex-president of the United States was one of its founders, nor upon its approval by an ex-president of the American Medical Association, nor upon the fact that 100,000 people were advised by it to seek medical treatment in 1928,

nor upon the fact that a majority of its 9,500 physician agents are members of the American Medical Association; but it should depend upon the thoroughness and efficiency with which its service to the public is rendered, whether these periodic physical examinations are of actual value to those who apply for them, and whether the 9,500 physician agents scattered over the country are competent and sufficiently well equipped to conduct such examinations as will determine the health status not only of those who look well, feel well and are well; but also discover the pathologic conditions in those very few who look well, feel well but are not.

#### —R— CHIPS

Sometimes one wonders what the significance of the body temperature is, what temperature indicates fever, and if any one really knows. Williams and Hill, in an article on Tuberculosis in the Journal A.M.A., June 15, say: "Since a rise in temperature may be present for only a short period of the day, and then at a comparatively odd hour, and since a temperature 98.6° in the afternoon may represent the peak of a rise from 95° in the morning, many specialists feel that a variation in temperature may escape notice unless the temperature is recorded every two hours." In an article by Pearson, in The Lancet, January 12, on the pitfalls in the diagnosis of pulmonary tuberculosis may be found the following: "A rectal temperature above 98° F. a.m. and above 99.4° F. p.m. should be considered fever, at all events in a man. In most men, in fact, a rectal rest temperature of 98° F. a.m. and 99.4° F. p.m. will be found to be one degree higher than the average temperature of health. One degree lower are readings for oral temperature." In other words a mouth temperature of 97° in the morning and 98.4° in the afternoon should be regarded as fever. In Pottenger's Clinical Tuberculosis one finds the following: "It is safe to say, under ordinary circumstances, that a temperature (mouth) of



97.2° or 97.4° in the early morning is normal for that hour of the day, and 98.6° measured at two or four o'clock in the afternoon is likewise normal for that hour." In Anders and Boston, Medical Diagnosis, one may find the following: "Normal temperature is said to be between 98° and 99.5° F. It is subject to physiologic variations, among which may be mentioned; (a) time of day, (b) exercise, and (c) age. The temperature rises from seven to eight in the morning and reaches the maximum between seven and eight in the evening. It then begins to gradually fall, and may even be subnormal between 12 p.m. and 4 a.m." Lawrason Brown and Fred H. Heise, in the discussion of pulmonary tuberculosis in Blumer's recent work on Bedside Diagnosis, call attention to the great importance of fever diagnostically in tuberculosis and state that it rarely rises, at first, above 99.5° to 100°, that it is fleeting, lasting but a few hours, and that it should be recorded every two hours for three or four days. They do not state, however, the line at which the temperature ceases to be normal.

On the strength of an apparent immunity to cancer in tuberculous individuals experiments on animals have been made to test the therapeutic value of tuberculin. Now Pearl, Sutton and Howard have made a preliminary report, London Lancet, May 25, on seven cancer patients treated by injections of tuberculin. In conclusion they say: "The evidence which has so far been accumulated does not warrant any positive conclusions whatever regarding the ultimate therapeutic value of tuberculin in the treatment of cancer. The cases which have been treated are too few in number, and even in these cases the final outcome is too uncertain to justify any far-reaching or final deductions. The clinical and histo-pathological results which have been obtained, however, taken in connection with the positive conclusions from the study of the autopsy material already reported by Pearl are of a sufficiently promising character to warrant the continuation of the investigation. Unquestionably the lives of some, if not all, of

the patients whose histories are recounted above have been prolonged beyond the duration they would have realized had the tuberculin not been given."

Prof. Kawakami and others, in the Japan Medical World, May 15, 1927, reported some experiments in the immunological therapeutics of human cancer. They used serum from horses and goats in whom the tissue of human cancer had been implanted. All of the sixteen cases treated were selected because of the easiness of observation. The serum was injected intravenously, subcutaneously, or both ways. In all cases, after varying periods, the cancerous ulcerations became clean, the odor disappeared, the bleeding ceased, the pain was relieved and the cancerous tissue had begun to crumble. Examined microscopically it was shown that a thick layer of differentiated connective tissue was formed around the remaining cancerous tissue. The striking feature of the changes produced was "the degeneration and necrosis of the cancer cells and the ruin of their nests and cords." Some of the cancer cells were phagocyted by giant cells. There was effort at repair by extensive formation of connective tissue. They reported no cured cases.

Apparently it has not yet been settled whether pulmonary abscesses following tonsillectomy are caused by emboli or are the result of the aspiration of infectious material. Harkasty reports, in the Archives of Internal Medicine for June, the results of some experiments on dogs. He says: "Results of experimentations on animals as well as clinical experience point to the fact that while embolic abscesses may occur, they are exceptional. The greater amount of evidence is in favor of aspiration as the mode of production of suppuration of the lung following operations on the upper respiratory tract." "If results obtained in dogs may be translated to conditions occurring in man, it is suggested that following aspiration of infectious material from the upper respiratory tract; the current of events is as follows: (1) pneumonitis; (2) necrosis and cavity forma-

tion; (3) healing or persistence of the primary abscess with the formation of secondary bronchiectasis."

An American correspondent to the London *Lancet*, January 12, 1929, writes: "Some interest has been aroused in medical circles by the report given recently by a commission of Bishops and Deputies to the General Convention of the Protestant Episcopal Church. This commission has been considering evidence of "Christian healing" since its appointment three years ago and has heard physicians and neurologists as well as parish priests and the hearsay testimony of persons of unquestioned veracity. On the one hand the commission recommended that all faith-healing should be carried on in close co-operation with medical science but on the other they state that throughout the world spiritual healing is no longer the hope of a few but the belief and practice of a large and increasing number of persons."

Just how "faith-healing" can be "carried on in close co-operation with medical science" is a problem to which the Commission might profitably devote a few more years of study.

In the transactions of the International Conference on Goiter, Bern, Switzerland, August, 1927, is an article by Galli-Valerio on the etiology and epidemiology of endemic goiter in which he says that the theory of the causation of goiter by deficiency of iodine can not be accepted, because even where iodine is present in excess goiter may develop, and because deficiency of iodine causes atrophy, not hypertrophy, of the thyroid gland. Iodine is merely in some way, an antidote to goiter, as is quinine to malaria. That goiter is caused by drinking water is supported by fact and experiment. The noxa of goiter in drinking water is either a specific substance or a specific germ or group of germs, especially of the intestinal flora, which produce toxic substances that act on the thyroid gland.

In the same transactions there is an article by Berard and Dunet, who dis-

cuss the prevalence of goiter in France and state in regard to its etiology, that although there are several causes of endemic goiter, drinking water is the most prominent. There are beyond all doubt certain kinds of water which produce goiter. The action of goiter-producing water is to be explained by its interference with iodine metabolism, causing relative or complete insufficiency of iodine. All factors therefore which increase the need of the system for iodine favor the appearance of goiter. Goiter is regarded not as a disease strictly confined to the thyroid gland, but as a general disturbance of nutrition.

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## SOCIETIES

### CLAY COUNTY MEDICAL SOCIETY

For the June meeting of the Clay County Medical Society the doctors made a pilgrimage to Wakefield and were the guests of Drs. D. O. Jackson and E. G. Dennis of that place. The first number was a splendid dinner which was enjoyed by everyone present. The program for the evening was in the nature of a clinic and lecture both given by Dr. John G. Hayden of Kansas City, Mo., on "The Treatment of Varicose Veins." Dr. Hayden demonstrated on clinical cases before the Society the injection treatment for varicose veins. That the doctors were greatly interested in this subject was demonstrated by the great number of questions put to Dr. Hayden and which he answered. The attendance at this meeting was very good and everyone present felt well repaid for his effort. The Clay County Medical Society will have no meetings during July and August, but will meet again in September.

X. OLSEN, Secretary.

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At the Congress of Physicians in Vienna, Fliegel reported a number of cases of fistulous joint tuberculosis successfully treated with a spleen diet. Patients received 50 to 100 gm daily for four weeks of calves spleen, raw, grated into soup, or roasted.



**Proceedings of the Seventy-First Anniversary Meeting of the Kansas Medical Society, Held at Salina, Kansas, May 7, 8, 9, 1929**

(Concluded from June Issue)

**COMMITTEE ON PUBLIC POLICY AND  
LEGISLATION**

**House of Delegates:**

Your committee on public policy and legislation beg to report that our only activity has been in the line of proposed legislation. You gentlemen are all familiar with the proposed basic science law offered us as a form by the American Medical Association, which we accepted and modified to some extent and presented to the legislature. Along with representatives of various cults we were accorded a cordial hearing before a committee on public health of the House of which Dr. R. A. McIlhenny, of Conway Springs, was chairman. We feel that our case was presented in a dignified and comprehensive manner by our representatives led by Judge J. D. M. Hamilton, our legal advisor.

In this competitive speech making I think we were agreed that the best prepared and best delivered address was by a lady Chiropractor, who on being questioned by the committee said she was opposed to the use of diphtheria antitoxin and all forms of vaccination.

The committee through Dr. McIlhenny, reported our bill favorably and it was on the list of general orders more than a hundred numbers below being heard when the legislature adjourned.

I feel that the first duty we have in this line is to create public sentiment in our favor and if possible to overcome the feeling that we are asking a special privilege. Members of the legislature who have no personal interest in a bill very much dislike to espouse the cause of anything which they consider unpopular. As unfortunate as it seems and as much sub-rosa as it must be conducted, the passage of legislative enactments is very largely a matter of barter, and no member is willing to sacrifice any of his schemes for support of our bill.

Dr. McIlhenny, as chairman of the public health committee, rendered us valuable service and we hope to have him return

to the legislature with his experience which we hope will give us greater success at the next session.

We think this question of medical legislation should not be left entirely to the committee but that it should be an open forum at any meeting of any medical society in the state and should engage the attention of all members of the profession. The idea which I wish to express is suggested by a letter I received some time ago saying, "I was told that the committee had all the information there was encased in a perfectly tight box never to be opened except at a state meeting." I wrote him that I very much appreciated his statement of the case.

Very respectfully submitted,

W. S. LINDSAY, Chairman.

Accepted and filed.

**COMMITTEE ON SCHOOL OF MEDICINE**

To the Council and House of Delegates:

The Committee on School of Medicine begs to submit the following:

The classes are considerably larger than they have been in the past, the senior class having 43 students, the junior class 50 and sophomore class 54.

One of the difficulties encountered is inadequate class rooms, it was hoped that there would be allowed a new building by the legislature so that this problem would have been solved. There are two class rooms in the new ward building but both are small and will scarcely accommodate a class of 50. Inasmuch as some of the courses call for a combined class of juniors and seniors the difficulty can be readily seen.

The legislature was asked for a service building in order to move all our school together to give additional dining room and kitchen facilities and provide a place for our colored ward. This building was not allowed owing to the general policy of not giving buildings to any of the educational institutions. They were also asked for \$60,000 to equip a new ward building; they allowed \$50,000

**ERRATA**

In the list of cases reported by the Defense Board in the official proceedings which appeared in the June number of the Journal in place of a case against Bennet vs. Kassebaum and Johnson it should read Bennett vs. Kassebaum and Bunsen.

which will take care of this fairly satisfactory. They were asked for \$30,000 to enlarge the power plant and add new boilers; this was granted. They also allowed \$30,000 for increase in salaries and maintenance of the institution although twice the amount was asked. This will provide for the care of 30 or 40 patients in addition to the present hospital capacity.

We should have received a larger maintenance allowance to develop the hospital in the way it should be developed.

The Legislature also gave \$10,000 for the purchase of radium so that after the first of July it will be possible to provide radium treatments for the patients and afford the students instruction in its action.

The experiment which was started last year of assigning 3rd year students to doctors in different sections of the state to act as their assistants has been continued. Students who had this work last summer speak very highly of the plan and the doctors also favor this work.

Regarding research work, we note that a list of the material published by the faculty in the last 25 years amounts to over 1,000 papers. Dr. Major has done most outstanding work along the line of arterial hypertension; Dr. R. L. Haden has done likewise in the anemias. He and Dr. Thos. G. Orr have contributed very valuable information on the chemistry of intestinal obstruction.

Among the recent monographs and text books published by members of the faculty may be mentioned Dr. R. L. Sutton's revision of his book on skin diseases, Dr. C. C. Dennie's book on syphilis, Dr. Haden on focal infections, Dr. Orr on amputations, Dr. Frank C. Neff a volume in Abt's Pediatrics, Dr. Clendenen a book on therapeutics and a popular work entitled the Human Body.

This year post graduate courses were offered in Internal Medicine, Surgical Diagnosis, Obstetrics and Gynecology, Pediatrics, Otorhinolaryngology and Physio-Therapy.

We feel that in the matter of the Orthopedic Clinics sent out by the School of Medicine it is entirely just to all con-

cerned and of distinct value to localities where orthopedic service is not accessible but we believe that the clinics should be established only on the request of the local medical society.

ALFRED O'DONNELL, Chairman.

J. T. SCOTT.

F. A. TRUMP.

Report accepted and filed.

#### REPORT OF COMMITTEE ON HOSPITAL SURVEY

To the House of Delegates of the Kansas Medical Society:

Your Hospital Committee, of which I am the chairman, desires to make the following report:

The only activity of the committee for the year past has consisted in co-operation with the Council on Medical Education and Hospitals of the American Medical Association. Their report for 1929 in pamphlet form can be obtained from the American Medical Association and the price of same is fifty cents.

The Committee's rating of hospitals, for which their approval is given, is based upon conditions of the hospital from the desirability for internship, also approval for residency in a specialty for graduates in medicine who have already had a general internship or its equivalent in practice, also those approved by the American College of Surgeons which meet their minimum standards unconditionally and School of Nursing accredited by the State Board of Nurse Examiners.

In Kansas we have 142 hospitals with a capacity of 10,949 beds, 517 bassinets and of this number only 15 are not admitted to the register. The capacity of which are 408 beds and 18 bassinets. Of the hospitals in Kansas approved for internship by the Council of Medical Education and Hospitals of the American Medical Association, we have three in Kansas City, Kansas, and one in Wichita. Of the hospitals approved by the American College of Surgeons we have one at Concordia, one in Eldorado, one at Ellsworth, one at Great Bend, one at Halstead, one at Hays, three in Kansas City, Kansas, one at Newton, one at Pittsburg, one at Sabetha, one at Salina, three in Topeka, one in Wellington, two in Wichita, two in Winfield. Approved as a residency in a specialty only



one, that is, Osawatimie State Hospital.

In the general survey of the hospitals of the United States the percentage of beds occupied remains practically the same for 1927 and 1928, that is 78 per cent for 1927 and 78.7 per cent for 1928.

The average annual increase since 1909 has been around 25,000 beds. The increase for the past year would be sufficient to accommodate an increase of more than ten millions in population but for the fact that other factors besides increases in population are affecting the demand for hospital beds. There is found by reckoning one bed to 270 persons, which is about the ratio at present between the total population and total beds in all types of hospitals, the total capacity including beds and bassinets in 1923 was 790,233, in 1927 it was 895,379 and for the year 1928 the grand total capacity was 936,247. The greatest increase has been in the demand for maternity cases. In 1928 according to this census 736,321 infants first saw the light of day last year in one or another of the hospitals.

GEORGE M. GRAY, Chairman.

Report accepted and filed.

#### COMMITTEE ON MEDICAL HISTORY

House of Delegates, Kansas Medical Society:

I have to report for the Committee on History of the Kansas Medical Society that we have succeeded in securing a photograph and life sketch of every one who has been president of the Society since its organization in 1859 with two exceptions. We have been unable to learn much of anything in regard to John Parsons who was elected president in 1868, and was at that time located in Atchison County. We still hope to be able to secure some data concerning Dr. H. K. Kennedy who was elected president in 1873 and was at that time located in Topeka, but had formerly practiced in Ozawie. The photographs and sketches have been assembled in a loose leaf book which is kept in our vault.

We have collected the reports of the annual proceedings of the Society from the beginning. These were compiled and published in two volumes in 1885. From

that time until the official Journal was started in 1901 the proceedings were published in the Kansas Medical Journal and during a part of this time also in book form. Since 1901 the proceedings have been published in our own Journal but complete files are not available. I have the complete set of reports in my own personal collection, but it seems to me that the official proceedings which are preserved now only in the files of the Kansas Medical Journal, should be copied and bound in a single volume, and this should also be done with the proceedings of 1901 to 1915 which were printed in our official Journal, the files of which are incomplete. I believe the only approximately complete one is in my own library. To put these records in a condition for preservation will require some effort and some expense, but certainly the only official records of the Society should be preserved.

We therefore suggest that the House of Delegates authorize the expenditure of such funds as may be necessary to have these fragmentary records compiled and bound for preservation.

W. E. McVey, Chairman.

Accepted and filed.

It was regularly moved and seconded that two copies of the records of the Kansas Medical Society be made, one for the Journal file and one for the Historical Society file, also that another book be made of president's photographs and history of presidents.

Dr. J. F. Hassig, Chairman of the Committee on Scientific Work, presented the program of the meeting as the work of the committee for the year, which was accepted.

Dr. O. P. Davis made a motion that hereafter the Defense Board be published on the program of the Society. The motion was seconded and carried.

Pending Amendment—Resolved: That Section 1, Article 13 of the Constitution be amended by substituting \$10.00 in the place of \$5.00 in the fifth line of said section.

The above proposed amendment was presented to the House of Delegates at the 1928 meeting in Wichita and referred

to the 1929 meeting of the House of Delegates for its final consideration.

The 1929 House of Delegates voted unanimously to adopt the above resolution, and it also unanimously voted to fix the present annual dues at \$7.00.

Dr. W. F. Bernstorff made a motion that the extension work of the University of Kansas School of Medicine be commended, expressing a partiality for the series of lectures that may be given out in the territory.

Motion seconded and carried.

Meeting adjourned.

#### MEETING OF HOUSE OF DELEGATES

Thursday, May 9th

The House of Delegates met in the Shrine Parlor of the Masonic Temple, Thursday, May 9th at 8:30 a. m. Meeting called to order by the president, Dr. L. F. Barney.

Roll call showed that there were 57 delegates and officers present. The first order of business was the election of officers for the ensuing year.

The following officers were elected:

President-elect, Dr. E. S. Edgerton, Wichita.

Vice President, Dr. E. C. Duncan, Fredonia.

Secretary, Dr. J. F. Hassig, Kansas City.

Treasurer, Dr. Geo. M. Gray, Kansas City.

Councillors:

Fourth District, Dr. O. P. Davis, Topeka.

Fifth District, Dr. J. T. Axtell, Newton.

Ninth District, Election postponed one year.

Eleventh District, Dr. C. H. Ewing, Larned.

Sixth District, Dr. J. F. Gsell, Wichita, for two years. Unexpired term of Dr. E. S. Edgerton.

#### STANDING OF THE COUNCIL

Dist.	Councillor	Term Expires
1st—	Dr. C. W. Reynolds, Holton.....	1930
2nd—	Dr. L. B. Spake, Kansas City.....	1930
3rd—	Dr. P. S. Mitchell, Iola.....	1931
4th—	Dr. O. P. Davis, Topeka.....	1932
5th—	Dr. J. T. Axtell, Newton.....	1932
6th—	Dr. J. F. Gsell, Wichita.....	1931
7th—	Dr. C. C. Stillman, Morganville.....	1930
8th—	Dr. Alfred O'Donnell, Ellsworth.....	1930

9th—	Dr. C. S. Kenney, Norton (elec. pospd)	1930
10th—	Dr. I. B. Parker, Hill City.....	1931
11th—	Dr. C. H. Ewing, Larned.....	1932
12th—	Dr. W. F. Fee, Meade.....	1931

A motion was made by Dr. H. E. McCarthy, regularly seconded and carried that the Bureau of Public Relations expenses shall not exceed \$100.00 per month during the coming year.

Dr. Alfred O'Donnell who was appointed one year ago as chairman of a committee to investigate the correspondence course of the physical director of the University of Kansas made a verbal report, which was accepted and the committee was discharged.

Dr. John A. Dillon made the following motion which was regularly seconded and carried. That the president appoint a committee of three to co-operate with the Kansas State Dental Society. The following committee was appointed: Dr. John A. Dillon, Larned, Dr. John A. Dyer, Ottawa, and Dr. H. F. Hyndman, Wichita.

Meeting adjourned.

#### JOINT MEETING OF COUNTY SECRETARIES AND COUNCIL

This meeting was held May 7th at 12:15 p. m. in the Tent Room, Lamar Hotel.

A complimentary luncheon was served, the following being present: Dr. L. F. Barney, Kansas City; Dr. Alfred O'Donnell, Ellsworth; Dr. J. F. Hassig, Kansas City; Dr. H. J. Stacey, Leavenworth; Dr. W. Stephenson, Norton; Dr. Ivan B. Parker, Hill City; Dr. W. R. Dillingham, Salina; Dr. W. F. Fee, Meade; Dr. W. E. McVey, Topeka; Dr. E. C. Duncan, Fredonia; Dr. E. H. Johnson, Peabody; Dr. L. M. Beatson, Arkansas City; Dr. O. P. Davis, Topeka; Dr. C. C. Stillman, Morganville; Dr. X. Olsen, Clay Center; Dr. George W. Davis, Ottawa; Dr. C. W. Reynolds, Holton, Dr. Frances H. Schiltz, Wichita; Dr. J. T. Scott, St. John; Dr. H. E. Haskins, Kingman; Dr. Malcolm Newlon, Lincoln; Dr. J. D. Colt, Jr., Manhattan; Dr. P. S. Mitchell, Iola, and Dr. J. R. Campbell, Pratt.

The following program was presented:

"The Importance of Active Secretaries," Dr. L. F. Barney, Kansas City.



"Social Functions of County Societies," Dr. Malcolm Newlon, Lincoln.

"Scientific Programs for County Societies," Dr. H. E. Haskins, Kingman.

"Some Experiences with Medical Legislation," Dr. W. E. McVey, Topeka.

Meeting adjourned at 1:30 p. m.

#### COUNCIL MEETING

The Council met May 7th at 12:15 in a joint meeting of the secretaries in the Tent Room of the Lamar Hotel, Salina.

The following councillors were present: Dr. C. W. Reynolds, Holton; Dr. P. S. Mitchell, Iola; Dr. O. P. Davis, Topeka; Dr. C. C. Stillman, Morganville; Dr. Alfred O'Donnell, Ellsworth; Dr. I. B. Parker, Hill City; Dr. W. F. Fee, Meade; Dr. L. F. Barney, Kansas City, and Dr. J. F. Hassig, Kansas City.

The meeting was presided over by Dr. L. F. Barney.

Dr. W. E. McVey, Editor of the Journal, made the following report for the year:

#### ACCOUNT OF EDITOR

##### JOURNAL OF THE KANSAS MEDICAL SOCIETY MAY 1, 1928 TO MAY 1, 1929

###### RECEIPTS

Advertising .....	\$5,157.98
Sales and Subscriptions .....	295.41
Kansas Medical Society .....	2,000.00
Other Sources .....	100.00
	<hr/>
	\$7,553.39

###### EXPENDITURES

Journal Printing .....	\$2,508.00
Stock and Stationery .....	739.45
Electrotypes .....	167.66
Salaries and Wages .....	2,520.00
Office Rent .....	300.00
Postage .....	172.45
Miscellaneous .....	55.38
	<hr/>
	\$6,462.94

Balance .....	\$1,090.45
Filing Cabinet .....	39.00
Filing Case .....	36.00
	<hr/>
	75.00

Cash on Hand .....	\$1,015.45
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With this the fifteenth annual report of the Editor it seems appropriate to present a resume of the progress of the Journal for the period covered by these reports.

Th report made in May 1915, showed that there had been received for advertising \$1,404.35. The report for this year shows that \$5,157.98 has been received for advertising. During the period covered by the report in 1915 the Journal carried 6,720 square inches of advertis-

ried 20,984 square inches. In 1915 our advertising rates were \$60.00 per page, our rates are now \$180.00 per page. During the past 15 years the size of the Journal has increased 80 per cent, its reading matter has increased 85 per cent, its circulation has increased 50 per cent, and its advertising rates have increased 200 per cent. Receipts from sales of copies and subscriptions from non-members have increased from nothing in 1915 to \$295.41 for the past year. The report of 1915 shows that the cost of publication was \$2,004.81, including the \$600.00 salary of the editor, and that \$290.96 was returned to the Society. The report for this year shows that the cost of publication was \$6,462.94, including the salary of the editor of \$2,000.00 and that \$1,015.45 is returned to the Society. The average salary of the editor for 15 years was \$1,433.00. The average balance returned to the Society was \$599.90 besides an accumulation of permanent equipment to the value of \$942.18. (See invoice attached).

During the past few years your attention has been frequently called to the ex-ing matter, during the past year it car-pense of publishing the Journal, while in fact the Journal is the only profit mak-ing enterprise the Society owns. Instead of costing the Society \$984.55 last year it has saved the Society \$2,015.45, for if the Journal were owned by any indi-vidual member of the Society that is exactly the amount of its net earnings. It must be kept in mind that the amount of \$2.00 per each member for subscrip-tion to the Journal is a legitimate part of its income, and when the Society pays only 65 cents per member it has saved the difference between 65 cents and \$2.00 or \$1.35 per member.

At the present time the normal income of the Journal will pay for its publica-tion, will pay the ordinary expenses of conducting the business of the Society and carry on the work of the Bureau of Public Relations as originally outlined. It would not cover the expenses of coun-cillors or expenses for guests at the an-nual meetings but there would be left from the annual dues one dollar per member or approximately \$1,500.00 from

which to pay these items and other special expenses incurred.

#### INVOICE

Addressing Machine, cabinet, files and stencils .....	\$200.00
Multigraph and type .....	225.00
Multigraph type cabinet .....	20.00
Six steel filing cabinets .....	205.00
One wood filing case .....	35.00
One Royal Typewriter .....	107.00
Combination desk and card file .....	125.00
Typewriter table and chair .....	18.00
Steel cash and stamp box.....	4.50
Stationery cabinet .....	2.68
<b>Total .....</b>	<b>\$942.18</b>

A check for \$1,015.45 was received from the Editor by the Secretary. A motion was made by Dr. O. P. Davis, regularly seconded and carried, that the report just submitted by Dr. McVey be read before the House of Delegates at its meeting this afternoon.

The meeting adjourned to convene after the Public Meeting in the Auditorium tonight. The meeting of the Council to be in the Committee Room, Masonic Temple.

The following members were present: Drs. C. W. Reynolds, Holton; P. S. Mitchell, Iola; O. P. Davis, Topeka; E. S. Edgerton, Wichita; C. C. Stillman, Morganville; W. F. Fee, Meade; L. F. Barney, Kansas City; Geo. M. Gray, Kansas City, and J. F. Hassig, Kansas City.

The cases of Dr. L. E. McFarlane and Dr. J. W. Evans, both of Manhattan, who appealed from the action of Riley County Medical Society in suspending them from membership, were heard, and after hearing testimony from all parties concerned including Riley County Medical Society, the following findings were unanimously voted:

We have investigated the appeals and find that Riley County Medical Society has acted within its province. We further recommend that a charitable spirit be exercised with reference to those former members.

Meeting adjourned.

Thursday Morning, May 9, 1929

The following were present at the reorganization of the new Council:

Dr. L. B. Spake, Kansas City; Dr. P. S. Mitchell, Iola; Dr. O. P. Davis, To-

peka; Dr. J. T. Axtell, Newton; Dr. E. S. Edgerton, Wichita; Dr. C. C. Stillman, Morganville; Dr. Alfred O'Donnell, Ellsworth; Dr. I. B. Parker, Hill City; Dr. J. F. Gsell, Wichita; Dr. C. H. Ewing, Larned; Dr. W. F. Fee, Meade; Dr. L. F. Barney, Kansas City, and Dr. J. F. Hassig, Kansas City.

A newspaper article referring to Dr. Riley M. Waller of Riley County Medical Society which appeared in the Morning Chronicle, Manhattan, Kansas, on Sunday, December 23, 1928, was called to the attention of the Council and the following motion was made by Dr. C. C. Stillman, regularly seconded and carried:

That the secretary be instructed to take up the matter of newspaper publicity with both Dr. Waller and the secretary of Riley County Medical Society, and call to their attention the Principles of Medical Ethics of the American Medical Association.

A motion was regularly made and seconded that J. D. M. Hamilton, Attorney, be allowed \$150.00 for his services rendered during the legislature in connection with the Basic Science Act.

An invitation from Shawnee County Medical Society to hold the next annual meeting in Topeka, was accepted. It was decided to hold a three day session on Tuesday, Wednesday and Thursday, May 6th, 7th and 8th, 1930.

Whereas, It has come to the knowledge of the Council that several counties in the state have not held meetings during the year; whereas said practice is contrary to the best interest of the profession and the society at large, therefore let it be resolved that all societies that have not held meetings for more than one year be considered as without charter and the Councillor for the district be instructed to see to the society and reorganize.

The above resolution was adopted unanimously.

The following expense account of the secretary since January 1, 1929, and secretary's salary for past year was allowed:



Stenographer's salary .....	\$ 375.00
Stamps, telegrams and misc. ....	129.38
Secretary's salary .....	1,000.00
	<hr/>
	\$1,504.38

Meeting adjourned.

#### GENERAL SESSION

The scientific session convened at 9:45 a. m. in the auditorium of the Masonic Temple, Salina, Kansas, May 7, 1929, to listen to the previously announced subjects and the discussions thereof as presented by the guests and members of the Society.

#### PROGRAM

Tuesday, May 7

"Address of Welcome," Mr. Roy F. Bailey, President, Chamber of Commerce, Salina.

"President's Address," Dr. L. F. Barney, Kansas City.

"Headaches," Dr. Charles Hugh Neilson, St. Louis, Missouri.

"Management of Fractures Near Joints," Dr. Phillip H. Kreuscher, Chicago, Illinois.

"The Treatment of Lobar Pneumonia," Dr. F. M. Wiley, Fredonia.

Discussion opened by Dr. E. C. Duncan, Fredonia.

"Sense and Nonsense in the Recognition and Handling of Early Tuberculosis," Dr. Roland G. Breuer, Haddam.

Discussion opened by Dr. F. L. Loveland, Topeka.

Symposium on Maternity Care:

"Prenatal Care," Dr. J. D. Clark, Wichita.

"Postnatal Care," Dr. M. W. Hall, Wichita.

Discussion opened by Dr. G. E. Kassebaum, El Dorado.

"Injuries to the Coccyx," Dr. Earl L. Vermillion, Salina.

Discussion opened by Dr. J. A. H. Webb, Wichita.

"Ketogenic Diet in Chronic Convulsive States," Dr. William C. Menninger, Topeka.

Discussion opened by Dr. E. L. Vermillion, Salina.

Wednesday, May 8th

"Diagnosis of Gall Stones," Dr. W. J. Walker, Topeka.

Discussion opened by Dr. Arthur K. Owen, Topeka.

"Low Blood Sugar in Hypothyroid Condition," Dr. J. W. Campbell, Halstead.

Discussion opened by Dr. Ferdinand C. Helwig, Kansas City.

"Studies on Influenza," Dr. N. P. Sherwood, Lawrence.

Discussion opened by Dr. J. E. Wolfe, Wichita.

"Differential Diagnosis of Difficult Micturition," Dr. H. E. McCarthy, Kansas City.

Discussion opened by Dr. Arthur D. Gray, Topeka.

"Canti Film," three reels, showing the living tissue and cancer cells and the effect of radium upon them.

"Physical Diagnosis," Dr. Logan Clendening, Kansas City.

Discussion opened by Dr. H. N. Tihen, Wichita.

"The Lump in the Breast," Dr. W. P. Callahan, Wichita.

Discussion opened by Dr. A. P. Gearhart, Wichita.

"Podalic Version," Dr. H. J. Stacey, Leavenworth.

Discussion opened by Dr. E. A. Reeves, Kansas City.

"Diabetes Mellitus of Infectious Origin," Dr. George H. Penwell, Marquette.

Discussion opened by Dr. Fred McEwen, Wichita.

"Treatment of Pruritus Ani and Vulvae," Dr. Granville S. Hanes, Louisville, Kentucky.

"Necrology Report," Dr. E. E. Liggett, Oswego.

Thursday, May 9th

"Some Suggestions in the Treatment of Appendicitis," Dr. J. N. Dieter, Abilene.

Discussion opened by Dr. H. R. Turner, Hope.

"The Early Diagnosis of Infantile Paralysis," Dr. C. B. Francisco, Mission Hills.

Discussion opened by Dr. A. E. Bence, Wichita.

"Sigmoid Diverticulitis," Dr. C. C. Nesselrode, Kansas City.

Discussion opened by Dr. L. G. Allen, Kansas City.

"Electrocardiography in the Clinical Study of Heart Disease," Dr. H. E. Marchbanks, Pittsburg.

Discussion opened by Dr. C. R. Burkhead, Wichita.

"Undulant Fever, Treatment with Vaccine, Report of Ten Cases," Dr. Fred E. Angle, Kansas City.

Discussion opened by Dr. Earle G. Brown, Topeka.

"Tuberculosis in Childhood," Dr. A. J. Brier, Topeka.

Discussion opened by Dr. S. L. Cox, Anthony.

"Radical Breast Amputation with the Electric Cautey," Dr. W. E. Mowery, Salina.

Discussion opened by Dr. L. O. Nordstrom, Salina.

J. F. HASSIG, Secretary,  
Kansas City.

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## DEATHS

William Conyers Herring, Parsons, aged 60, died April 15, of angina pectoris and diabetes mellitus. He graduated from Medical Department of the University of the City of New York in 1890. Was on the staff of Mercy Hospital. Was a member of the Society.

George Richard Gage, Hutchinson, aged 56, died April 3, of cerebral hemorrhage, arterio sclerosis and nephritis. He graduated from University Medical College, Kansas City, Mo., in 1897. He was on the staff of Grace Hospital and St. Elizabeth's Mercy Hospital. He was a member of the Society.

Harry James Harker, Horton, aged 46, died April 8, of septicemia. He graduated from University Medical College, Kansas City, Mo., in 1909. He was a member of the Society.

George Harrison Phillips, Yates Center, aged 70, died February 23. He graduated from Miami Medical College, Cincinnati, in 1880.

James L. Otterman, Kansas City, Kansas, aged 81, died May 15, in Emporia, of heart disease. He graduated from

American Medical College, St. Louis, in 1877 and Kansas City Medical College in 1894. He was a civil war veteran.

Joseph Perry King, Galena, aged 63, died May 28, in Pittsburg, of heart disease. He graduated from Eclectic Medical University, Kansas City, in 1915. He was at one time mayor of Galena.

Edgar Jacob Lutz, Salina, aged 67, died May 13, following perforation of the intestine. He graduated from Baltimore University School of Medicine in 1886. He was on the staff of Asbury Protestant Hospital and St. John's Hospital. He was a member of the Society.

James Smith Watt, Kansas City, Kan., aged 78, died April 5, of cerebral hemorrhage. He graduated from Jefferson Medical College, Philadelphia, in 1881; Herring Medical College, Chicago, in 1900.

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## BOOKS

Professor of Physical Therapy, Tufts Medical School. With a Foreword by William D. McFee, M.D., Boston, Mass. Octavo volume of 417 pages with 135 illustrations. Philadelphia and London. W. B. Saunders Company, 1929. Cloth \$6.50 net.

This work by Dr. Granger should certainly be welcomed by all those practitioners who are at all interested in physical therapy. He seems to be the outstanding authority on the subject and in this work he presents the methods proved best adapted to the various conditions as determined from his own clinical experience. The text is as free from technicalities as it is possible to make it.

The Surgical Clinics of North America (Issued serially, one number every other month.) Volume 9, number 2. (Chicago Number—April, 1929) 243 pages with 70 illustrations. Per Clinic year (February, 1929, to December, 1929). Paper, \$12.00; Cloth, \$16.00. Philadelphia and London. W. B. Saunders Co.

The first report in this number is by Bevan on "The Acute Abdomen." Speed shows some cases of ununited fracture of neck of femur. Eisendrath has a clinic on cystitis. Hedblom discusses the surgical treatment of pulmonary tuberculosis. Moorehead shows a variety of cases involving surgery of the face and neck. Andrews discusses carcinoma of aberrant breast tissue. Gatewood reports some



operative procedures on the common duct. Straus and Trumpeper report a case of traumatic rupture of spleen. Montgomery discusses pseudo-appendicitis in children. Huggins clinic has to do with conservatism in genito-urinary surgery. McWhorter reports a case of amebic abscess of the liver. Bailey presents cases showing wounds of superior longitudinal sinus. There are also interesting reports by Van Allen, Curtis, Straus, Herbst, Bettman, Mullen, Christopher, and Miller.

Edema and its treatment by Herman Elwyn, M.D., New York. Published by The Macmillan Company, New York. Price \$2.50.

The author goes very systematically into the various factors causing edema and the conclusions reached form the foundation for the plan of treatment suggested, which consists essentially in the restriction of the intake of water and salt. His plan differs from Karrell treatment, however, in that he insists that the fluid and salt intake must be less than the output of the previous day. One who reads this little book will be well repaid and will certainly have a clearer conception of edema and its treatment than he had before.

Youthful Old Age, How to Keep Young, by Walter M. Gallichan. Published by The Macmillan Company, New York. Price \$2.50.

At some time in life one is apt to acquire the habit of giving advice, especially concerning habits to be formed or discarded. A favorite topic for discussion and advice among the middle aged and past middle aged is very naturally how to keep young. It is not often that one who has the courage to write on the subject ventures beyond the generally known and generally accepted health rules. The author of this book, however, seems to have some independence and presents some ideas that are different, sufficiently different at least to make the book readable.

Diagnostic Methods and Interpretations in Internal Medicine, by Samuel A. Lowenberg, M.D., etc., Assistant Professor of Clinical Medicine, Jefferson Medical College, etc. Published by F. A. Davis Company, Philadelphia. Price \$10.00.

The author has endeavored to cover the field of diagnostics in internal medi-

cine. He describes the various methods of examining a patient, explains the normal findings, enumerates pathologic conditions and pathologic physical signs and the relation of signs. Interpretations of physical signs are carefully discussed. The general field is thoroughly covered and such newer methods as seem worthy of recognition are described. There are numerous excellent illustrations.

Disease and Deformities of the Spine and Thorax by Arthur Steindler, M.D., Professor and head of the department of orthopedic surgery of Iowa State University Medical School, Iowa City, Iowa. Published by C. V. Mosby Company, St. Louis. Price \$12.50.

This is a scholarly presentation of the subject in which the author has given full consideration to the embryologic, anatomic, physical and mechanical factors involved. Considerable space is given to the various conditions responsible for what is called "low back pain," with which every physician more or less frequently comes in contact. The book is well illustrated and the illustrations are unusually instructive.

Diseases of the Thyroid Gland, by Arthur E. Hertzler, M.D., Surgeon to the Halstead Hospital. Second edition, entirely rewritten. Published by C. V. Mosby Company, St. Louis. Price \$7.50.

This work represents the results of the personal study and clinical experience of the author. He directs attention particularly to the pathology of the thyroid gland. He says that the study of the gland has heretofore been confined by most investigators to the histology of the epithelium, but the relation of the histochemistry of the colloid and the changes in the stroma to the epithelial changes is close and constant. Correct conclusions can only be drawn from constant comparison of the clinical picture, the pathology and a repeated examination of the patient in after years.

A New Treatment of Cancer and Chronic Diseases, by LaForest Potter, M.D. Published by Richard G. Badger, Boston.

This book seems to have been written not for scientific medical men, but for those who are more impressed by vague and fanciful theories than by assembled facts; for those who are fascinated by the sound of words formed into meaningless

when something that is unknown is given a name. There are those who can talk so learnedly about the actions and the results of the actions of mysterious and unknown forces that others and perhaps they themselves come to believe in their erudition, but upon the logical, analytical scientific mind such discourses make no phrases; for those who feel enlightened impression.

Devils, Drugs and Doctors, the story of the science of healing from medicine-man to doctor, by Howard W. Haggard, M.D., Associate Professor of Applied Physiology, Yale University. Published by Harper and Brothers, New York.

The author describes many of the ancient practices of those who attempted to heal the sick. He makes some excellent comparisons between the ancient and modern methods. One of the very interesting chapters is on White Magic and Black in which he describes the cults of today and those of former times.

The Writing of Medical Papers. By Maud H. Mellish-Wilson, Editor of the Mayo Clinic Publications. Third Edition, Revised. 12mo of 184 pages. Philadelphia and London. W. B. Saunders Company, 1929. Cloth, \$1.50 net.

This little book gives the writer just the kind of information he needs when preparing a paper for publication. Every one who contemplates the preparation of an article for publication should first get a copy of this book and then keep it on his desk for constant reference.

Clinical Electrocardiograms—Their Interpretation and Significance by Frederick A. Willius, M.D. Section on Cardiology, The Mayo Clinic, Rochester, Minnesota, and Associate Professor of Medicine, The Mayo Foundation, University of Minnesota. Quarto of 219 pages with 368 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth \$8.00.

There is need for a book of this kind. Every practitioner should be able to interpret these records. The author of this book has presented a series of records with interpretations and explanations that should be of great value to the general practitioner. If he is unable to apply the principles set out he can at least form a fairly correct opinion by comparison.

Physical Therapeutic Technic. By Frank Butler Granger, M.D. Late Physician-in-Chief, Department of Physical Therapeutics, Boston City Hospital; Director of Physiotherapy, United States

Army; Medical Counselor, United States Veterans Bureau; Member of Council on Physical Therapy, American Association; Instructor of Physical Therapeutics, Harvard Medical School; Assistant

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### Call for the Eleventh Convention for the Revision of the Pharmacopoeia of the United States of America

Boston, Mass. May 25, 1929.

In compliance with the provisions of the Constitution and By-Laws of the United States Pharmacopœial Convention, the President of the Convention hereby invites the several bodies, entitled under the Constitution to representation therein, to appoint delegates to the Eleventh Decennial Convention to meet in Washington, D.C., on May 13, 1930, and the attention of all concerned is invited to the following extract from the Constitution and By-Laws:

Chapter I, Article VIII, of the By-Laws of the United States Pharmacopœial Convention provides that the President of the Convention:

"shall issue on or about the first of May of the year immediately preceding that of the decennial meeting, a notice inviting the several bodies, entitled under the Constitution to representation therein, to send delegates to the next meeting. He shall repeat the notification eight months later, and shall request the medical and pharmaceutical journals of the United States to publish the call for the said meeting."

Article II, Section 1, of the Constitution provides:

"The members of the United States Pharmacopœial Convention, in addition to the Incorporators and their associates, shall be delegates elected by the following organizations in the manner they shall respectively provide: Incorporated Medical Colleges, and Medical Schools connected with Incorporated Colleges and Universities; Incorporated Colleges of Pharmacy, and Pharmaceutical Schools connected with Incorporated Universities; Incorporated State Medical Associations; Incorporated State Pharmaceutical Associations; the American Medical Association, the American Pharmaceutical Association, the Amer-



ican Chemical Society, the National Association of Retail Druggists, and the National Association of Boards of Pharmacy; *provided that no such organization shall be entitled to representation unless it shall have been incorporated within and shall have been in continuous operation in the United States for at least five years before the time fixed for the decennial meeting of this corporation.*"

Section 2 of the Constitution provides:

"Delegates appointed by the Surgeon-General of the United States Army, the Surgeon General of the United States Navy, and the Surgeon-General of the United States Public Health Service, the Secretary of Agriculture, the Secretary of Commerce, the Association of Official Agricultural Chemists, the Association of American Dairy, Food and Drug Officials, the National Wholesale Druggists' Association, the National Dental Association, the American Drug Manufacturers' Association, the United States Division of Customs, and the University of Havana, and by the organizations not hereinbefore named which were admitted to representation in the Convention of 1900, shall also be members of the corporation. Each body and each branch of the United States Government above mentioned shall be entitled to send three delegates to the meetings of this corporation. But no such delegates as are provided for in this article shall be members until their credentials shall have been examined and acted upon as provided for by the By-Laws. Delegates admitted as members at any decennial meeting shall continue to be members of the United States Pharmacopœial Convention until their successors shall have been appointed and admitted as delegates to the ensuing Convention and no longer."

REID Hunt, M.D.,

President of the United States Pharmacopœial Convention of 1930.

LYMAN F. KEBLER, M.D.,

Secretary of the United States Pharmacopœial Convention of 1930.

1322 Park Road, N. W., Washington, D. C.

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### Shock Proof X-Ray Apparatus Now Available

Simplification in design and improved controls have enabled the roentgenologist to constantly improve the quality of his work and obtain uniformly satisfactory results through the standardized technic which these improvements have made possible.

Shortly after the CDX was placed on the market the Victor engineering and designing organization under the leadership of Mr. J. B. Wantz started work on the development of a shock-proof type of x-ray unit for the use of the roentgenologists in the medical x-ray field.

The development of the Shock Proof x-Ray Unit is considered as probably the most important contribution to x-ray science since the advent of the Coolidge Tube. The knowledge and experience gained during these many years are reflected in the design of this new apparatus. Nothing has been left undone to bring to a realization the finest piece of workmanship, in justice to the important role to which it is believed this apparatus will be assigned in future radiology. It is dedicated to that body of specialists the roentgenologists, who have so immeasurably contributed to the advancement of medical science.

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### The Samuel D. Gross Fifteen Hundred Dollar Prize

The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice founded upon original investigations, the candidates for the prize to be American citizens."

It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page it shall be stated that

to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery.

The essays which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 19 S. 22d St., Philadelphia," on or before January 1, 1930.

Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

William J. Taylor, M.D., John H. Jopson, M.D., Edward B. Hodge, M.D., Trustees.

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### The Tetralogy of Fallot

Paul D. White and Howard B. Sprague, Boston (J.A.M.A., March 9, 1929), report the case of a notable musician, Henry F. Gilbert, who for nearly sixty years of his life suffered from congenital heart disease with cyanosis and clubbing of the fingers. The case is of great interest, first, because with the tetralogy of Fallot (pulmonic or infundibular stenosis, interventricular septal defect, dextroposition of the aorta and hypertrophied right ventricle) he survived to his sixtieth year, surpassing in age all patients previously reported by more than twenty-three years, and secondly, and most significant, because he made of his crippled life a great success, establishing himself in his musical profession as one of the greatest of American composers, and as a pioneer of native American music. The diagnosis of the cardiac defects was correctly made a year before his death. Fallot has demonstrated that this was possible forty years ago.

### Varicose Veins and Their Sequelae

One hundred and sixty cases of varicose veins and their sequelae were studied by Geza de Takats, Chicago (J.A.M.A., March 9, 1929), as to age and sex incidence. More than 1,000 injections with 50 per cent dextrose were made. An individualizing management, consisting of supportive, injection and surgical treatment or their combination is described. The histological reaction of the vein following injection has been studied. Immediate results of the various forms of treatment are tabulated. The possibility of pulmonary embolism following injection treatment and surgical treatment is discussed. The end-results of the surgical and injection treatment can be estimated only after five years. Recurrences are well known to occur after radical excisions and may be expected following the injection treatment.

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**WANTED**—Salaried Appointments for Class A physicians in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nation-wide connections enable us to give superior service. Aznoe's National Physicians' Exchange, 30 North Michigan, Chicago. Established 1896. Member The Chicago Association of Commerce.

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**FOR SALE**—Southwestern Kansas. \$8,000 to \$12,000 practice. Modern village. Fine level 95 per cent tillable farming country. Collections over 95 per cent. Excellent wheat and corn crops. 30 miles to closest competition, no other doctor in town, only one other doctor in county. Modern \$3,650 stucco residence, also x-ray, etc.; total \$3,000 of which \$1,500 is cash. Most excellent proposition. Specializing. Triflers need not apply. Address A-531, care Kansas Medical Journal.

**FOR SALE**—After practicing medicine in this city for forty-six years I have decided that I will retire from practice, providing that I can make a sale. Consequently, my office property of three rooms and two tenant rooms in same building, on Public Square Blue Rapids, Kansas, are for sale. Will sell equipment too. Also my bungalow residence of six rooms and bath room. I will sell all or part to suit purchaser.

If any physician buys I will stay two or three months and help him get started. If anybody is interested let me know.

Dr. R. S. Fillmore.

**WANTED**—To purchase paying medical practice in Kansas. Give complete information of town, amount of business, equipment and price with terms, churches, drug store situation. Address A-530, care Kansas Medical Journal.



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### Prenatal Care

J. D. CLARK, M.D., Wichita

Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

In one state where dependable statistics were available there were in one year 984 maternal deaths. Of these only 11 per cent had adequate prenatal care, 35 $\frac{3}{8}$  per cent had no prenatal care and 89 per cent had none or inadequate care. Contrast this with the results reported by Polak of 8,000 cases having adequate care with 22 maternal deaths or 2.7 per 1,000; of these in 1,000 cases cared for entirely by internes there were 4.2 deaths while the cases that came under the care and supervision of the Bureau of Charities had mortality of 8.0 per thousand. Such statistics as these should convince anyone of the advantages of proper prenatal care and should spur physicians up to educate the laity that it is necessary to be looked after properly during their pregnant state. Let the women in your clientele know that you will not respond when they call you at the time of labor, if you have not been given the opportunity to see that they are properly prepared for the labor, and have had a chance to learn beforehand of any pathologic condition that may in any way interfere with a successful outcome of the case. It would not take very long to impress them with the advantage of prenatal care and to obtain their cooperation. Furthermore an occasional urine examination, dose of cathartic, or taking the B. P. is not adequate prenatal care and often gives the physician, patient and her family a false feeling of security. I can recall hearing physicians twenty-five years ago make the statement that every woman had albumen in the urine during the latter months of pregnancy. The few cases that had the urine examined in those days did so because they had some symptoms that attracted the attention to the fact the kid-

neys were not properly functioning. So these women should be thoroughly examined and watched that they may be properly prepared for the greatest physiologic and psychic tax that is about to be met. Of course the ideal situation would be for women to present themselves for physical examination and evaluation before they become pregnant, and if any abnormality is found, to correct it as nearly as possible before the pregnancy started, but I fear this is too utopian for us to hope for at present. But we can get them to come as soon as pregnancy is suspected and thereby prevent many of the disasters that have claimed such a toll from motherhood.

At their first visit a careful history should be taken, inquiring closely into any family taint, and any tendency to chronic diseases. It is of great importance to know before hand that nephritis, heart complication, bleeders, poor resistance or abnormal physical, mental or nervous reactions to stress, exists in the other members of her family. The physician should know whether her mother and sisters have had any abnormal pregnancies or labors and why. If there have been any unfortunate experiences in other members of her family during pregnancy she will go into labor with far less courage. These, many times, can be explained in a manner that will put her mind at rest and restore her morale. In her personal history do not overlook the diseases of childhood that may have left their sequelae in crippled organs as the heart or kidneys. There is no doubt in my mind that many cases of pyelitis complicating pregnancy are traceable to pyelitis of childhood. The history of any nervous disorders and the patient's psychic reaction to physical stress and worry may be of great value to the physician later on in evaluating any departure from the normal, and may make it his duty to see that her family give the

closest attention to her surroundings if she is to be kept from later psychoses. How often the psychiatrist is able to trace serious mental disturbances of late pregnancy and the puerperium to a life-long unstable nervous mechanism that has been overlooked by the family and the attending physician. Women who formerly wore glasses, during school age or in office work and discarded them as unnecessary after discontinuing work requiring close application, find it necessary to go back to them during pregnancy because of attending headaches due to the increased sensitive state of nerves. Any of these things are of trivial importance when taken singly but if they make the patient uncomfortable or unhappy they may prove to be the entering wedge that will later on usher in a train of conditions and symptoms that may rend her well being asunder. In these days of focal infections we should not fail to inquire about chronic infections. Who can foretell when a chronic sinusitis, tonsil, tooth or gall bladder may light up or initiate a pyelitis? So insist that any chronic focus be cleared up as early as possible after pregnancy has begun. If there has been a former pregnancy a painstaking history of it should be elicited, for often symptoms that may be passed over lightly by the patient may have an important bearing on future gestation. The history of former abortion should be gone into carefully as to cause and subsequent recovery. Many of these are caused by deficient endocrine action and proper management may help a succeeding pregnancy to develop to a normal termination. If there is a history of a difficult labor or a still birth the exact cause and condition should be determined definitely and if necessary the former attendant should be asked for detailed information.

The physical examination should include color and condition of the skin and mucous membrane of mouth—for signs of toxemia and anemia—teeth, throat, tonsils, thyroid for any enlargement, contour of chest, lungs, heart, abdomen for irregularities of contour, and search for any glandular enlargement.

By this we can detect any existing

pathology and at once set about to correct it; further if anything develops later in the pregnancy we know it to be something new and not an already existing pathologic condition. There is another advantage, by knowing of any abnormal condition early we are able to judge whether it is getting worse or being adversely affected by the pregnancy. This is especially true of cardiac, kidney lesions or anemia. Every woman who has symptoms of anemia should have her blood examined and if not found satisfactory repeated counts should be made at regular intervals to rule out the more serious of the anemias, for this is the only way we can hope to cope with either a true hemolytic anemia of pregnancy or the pernicious type where early recognition is our only chance of benefiting the patient.

The general examination is not complete without that of the pelvis and its contents. Is the uterus in position, and enlarged to correspond to the length of pregnancy; movable and in proper relation to pelvic structures? If retrodisplaced can it be brought up into proper position and kept there? Are there any fibroids in the uterine wall, if so what is their location and size? Great care must be exercised in determining how their size and position may affect the progress of the pregnancy and the coming labor. I have been surprised at how many women go through pregnancy and the puerperium with no trouble at all from them, but when they do cause trouble it is of the most serious nature and may tax the skill and judgment of the physician to the very limit. Ovarian cysts must be looked for with greatest care keeping in mind the ones with pedicles so long that they may be clear out of the pelvis and entirely overlooked until twisted on the pedicle and the patient is found in profound shock. Litzenberg and others of wide experience advocate the early removal of every cyst found in pregnancy, feeling it is far less dangerous to do this than run the risk of it becoming twisted on the pedicle or causing obstruction to labor.

While making the pelvic examination the promontory of the sacrum should be



sought for. If the index finger touches it you have a contracted or flat pelvis. If the tip of the middle finger touches it an average sized head can be expected to come through all right. In the further measurements of the pelvis do not lose sight of the relation of the intercrystal and interspinous, the nearer they approach the flatter the pelvis. There is too little attention paid to the space between the tuberosities of the ischii and the pubococcygeal diameter. These are especially important where the arch of the pubes is narrow. Also the wider the quadrangle of Michaelis the flatter the pelvis is likely to be. Look also for what DeLee terms "The Dystrophia Dystocia Syndrome." There is a disproportional shortening of the bones of the extremities. If the ordinary hand can span the length of the ulna you can be sure of a small pelvis with a slow dilating time and hard delivery. I do not believe the patient should be worried with all these things but it surely does improve your standing with the family if they are warned before hand that you have found and recognized conditions out of normal and "to be forewarned is to be forearmed."

Regular office visits should be insisted on that we may watch carefully:

1. Whether any abnormal condition found is quiescent or advancing and whether it is going to render termination of pregnancy necessary or whether it is going to render delivery more hazardous.

2. Weight. After the initial weight loss, whether from vomiting or not, every pregnant woman has a tendency to put on great weight, often times without overeating. There is no excuse for any woman to gain more than twenty pounds during her pregnancy and, if greatly over weight at the beginning, she may with advantage be carried through with no gain. The records of many cases show that a sudden large increase of weight is immediately followed by a sharp rise in blood pressure. Practically every case of hepatic toxemia shows this as do most of the nephritic type. By charting this weight at each visit, there will be less trouble in convincing the patient that she is eating too much and

thereby overloading her excretory organs.

3. Have the patient bring a specimen of urine each time she comes to the office, preferably from a twenty-four hour collection. This should be examined each time both chemically and microscopically, for by so doing we can many times start treatment that will stop toxemia in its incipient stage. Also we may be able to prevent the development of pyelitis before it has gone to the stage of chills, sweats, high temperature, or miscarriage. It is surprising how much can be done in the early stage of this condition by posture, rest in bed, diet, and large amounts of water. The frequency of pyelitis and its serious possibilities both to the pregnancy and future health of the mother makes it important to recognize and treat it from its first appearance.

4. Regular blood pressure readings will also give us information of great value especially when evaluated with our other findings. A reading of 130 or 140 early in pregnancy nearly always means a chronic kidney, and should be a warning to put the patient on a careful regime. Many of these cases can be carried successfully through the pregnancy at least to viability if they are carefully managed from the beginning, but at the same time the patient's family should be warned that they pay the price of a shortening of her life expectancy, even when the pregnancy has been successfully ended. Many of the vomiting cases have an abnormally low pressure and such cases are greatly benefited and the nausea relieved by adrenalin and small doses of thyroid. At the first sudden rise in pressure the patient should have her diet cut down both in amount and character, she should have all nervous and mental annoyances removed and given more rest and quiet. If this is not done early we cannot hope to get desired results for the changes that take place later cannot be removed and the patient goes from the initial stage to a full fledged toxemia with all its varied sequelae. Too often we forget that it is not the high blood pressure but the underlying physical changes, of which pressure is only one symptom, that is to

determine the patient's future. Very many pregnant women do not drink enough water to keep up an active elimination through the kidneys and bowels.

5. It is far better to insure active bowel action by large amounts of water than daily resort to cathartics. Water, coarse vegetables, fruit, exercise and if necessary mineral oil is the better method of handling constipation. By regular copious evacuation the tendency to toxemia, hemorrhoids, varicosities and general malais is greatly lessened.

6. At these regular visits the growth of the uterus should be closely watched to know that it is developing properly in relation to the length of the pregnancy. Also we should determine the behavior of any fibroids or ovarian cysts that were previously found. If the uterus was found to be retrodisplaced at our first examination its restoration and rise from the pelvis must be carefully seen to. Usually by placing the patient in the knee chest position the uterus is easily replaced without force being necessary and by instructing the patient to take this position several times daily it will stay in position. Occasionally, however, a pessary will be necessary to hold it up until its size prevents a return into the pelvis.

In the later months, at these prenatal visits the size and position of the baby should be carefully watched and if in faulty position this should be corrected. External version can be accomplished in most cases at the eighth month and a binder should be applied to hold the head over the inlet. A transverse can be much more easily restored before labor sets in than afterward. When the occiput is posterior it can usually be rotated to anterior by having the mother lie on that side with a large thick solid pad placed diagonally from her flank toward the pubes. She should do this while taking her daily rest and again go to sleep in that position. Then by wearing a snugly fitting support with a smaller pad against the baby's back during the day a recurrence is not likely. Where the head has not engaged we should always suspect a faulty presentation. My experience has convinced me that malposi-

tions are much less frequent in patients who wear properly fitted corsets or supports during the late months.

Many of the cases of nausea and vomiting need only a regulation of their diet. Removal of all fats and increase in carbohydrates is all that will be necessary in a large number of cases. Three meals daily does not suffice. These patients should eat frequently to prevent the stomach becoming empty. Salty crackers, cookies, a glass of milk, taken at the first feeling of emptiness or hunger pains will nearly always prevent succeeding nausea. For the early morning sickness have friend husband get the patient a cup of *hot*, not warm, water and a plate of crackers. These should be eaten in bed and then lie on the right side for fifteen minutes before trying to get up. Sexual intercourse is a frequent cause of nausea as well as early abortion and should be prohibited. Usually if an increased carbohydrate intake is resorted to early, dehydration is prevented and acidosis does not develop. If we can prevent dehydration and acidosis the case will not become serious or of the pernicious type. This can be done by glucose and soda bicarbonate in small enemas repeated every four hours given with the patient in the knee chest position and later placed on the right side to insure their retention. Cases with hypoadrenaline function will respond to adrenaline, thyroid or corpus luteum treatment when nothing else seems to help. Many of these cases need sedatives to quiet their anxiety and obtund the nervous system. These are better tolerated when given per rectum. Isolation from over anxious, over solicitous friends, preferably in a quiet hospital room, greatly shortens the recovery, and it is not an uncommon thing to see a patient respond so rapidly that she is back home again eating regularly at the end of a week. The neurotic or psychic side must not be lost sight of in treating a vomiting case. Do not allow rugs on the floor at the side of the bed or have the bed-clothes carefully protected from the vomitus by towels, nor a large bowl conveniently placed in easy reach of the bed on a carefully covered chair or stool.



Who would not vomit when everything is so carefully prearranged and suggestive of it? If you want to reduce the vomiting times to a minimum place a paper on the floor well under the bed and instruct the patient if she really must vomit she must lean over the edge of the bed far enough to vomit on the paper. Really it is surprising how few times they will do so when such primitive facilities are at hand, and they have to exert themselves so much to take advantage of such inadequate conveniences. I have frequently seen this simple procedure change an almost constant gagging and attempt at vomiting to three or four vomiting spells daily. In the severe cases that threaten to become dehydrated give daily 1,000 c.c. of normal salt under the skin and glucose 500-1000 c.c. intravenously. This not only helps by the direct good it does but is of great psychic value. If no improvement, resort to the duodenal tube placed through the nostril and keep the patient on the right side for several hours. I had one patient that I fed through a tube eight days. Only when all these measures have failed should one think of emptying the uterus. But do not wait too long before resorting to this as the liver cells become so necrosed that the patient will go on and die, even after vomiting has stopped and food is retained.

Many pregnant women are unnecessarily uncomfortable from pressure and weight of the gravid uterus and their sequelae. Nearly all these difficulties can be relieved or cured by properly applied supports. A properly fitted maternity corset not only gives relief from the sagging or pendulous abdomen with all its discomfort but also helps to prevent faulty position of the foetus and by holding the head directly over the inlet favors engagement of the head, thereby preventing delayed labor. Future health is also safeguarded by protecting the abdominal muscles from stretching and weakening, and ptosis of the abdominal organs from lowered intraabdominal pressure. However, these corsets should not be ordered from a mail order house but be fitted by a competent corsettier and then carefully checked at each pre-

natal visit, by the physician himself. None of the combinations of brassiere and corset are to be recommended, as it is impossible to properly support the breasts by any mechanism that is attached to the abdominal support. Corsets are to be mentioned only to be condemned in the strongest terms as they not only force the already heavy pendulous breasts still farther down but the hose supporters pull down on the gravid uterus. It is surprising to see how many women with low back ache, hip ache, "locking of the hip joint," inability to be on the feet long at a time, edema of the feet and legs, even varicosities are almost immediately relieved or cured by adjusting an improperly fitted and improperly worn corset, or application of a simple heavy muslin abdominal binder. When a competent corsettier is not available use heavy unbleached muslin pinned snugly from the pubes to the fundus and held up by broad shoulder straps that are crossed on the front to prevent pressure on the breasts. The painful engorged breasts of the first trimester are entirely and quickly relieved by a brassiere that fits the chest closely at the lower border of the breast and held up by shoulder straps attached inside the nipple line and made short enough to actually lift the breasts up. This allows the veins to empty out easily and by relief of venous stasis the soreness automatically disappears. A further advantage is gained later on in the increased milk supply from equalization of circulation during pregnancy and preserving the firmness and contour of the breasts after lactation is ended. These same supports are necessary and can be used during the nursing period. Once the connective tissue of the breasts is allowed to break, nature has no means of supporting them and they become more and more pendulous with each succeeding pregnancy. Since the cotton elastic bandages have come on the market I have abandoned the use of rubber elastic stockings for relief of varicosities of the legs. They are so much cooler, can be easily washed, can be applied even to varicosities of the thighs and kept in place by a stocking leg pulled up over them. Often a lo-

calized or extremely bad bunch of varicose veins is better relieved by a small thick pad of gauze directly over the varicosity, and held in place by a snugly applied strip of adhesive plaster. These supports enable the patient to attend to her household duties and to get out and walk in greater comfort, further, they help to prevent the varicosities becoming worse as they are so prone to do with the advancing pregnancy.

Edema may be only mechanical and if so is to be relieved by supports. If physiologic or due to some toxic state the cause must be ascertained and every effort made to relieve it. This is best accomplished by salt free diet and elimination both through the kidneys and bowels. Diuretics will greatly aid by increasing the renal output and magnesium sulphate in concentrated solution to the extent of five or six copious watery stools daily will usually give great relief to the patient as well as correct the trouble. Simple diet low in proteids, and in rather concentrated form, will help to prevent its return.

Pyelitis is of so frequent occurrence in this part of the United States and its treatment is often so unsatisfactory that I hope some good may result if we discuss it freely among ourselves today. An incidence of eleven cases in a series of 170 prenatal cases surely deserves some consideration of this condition. There is no use to discuss the various theories of the cause of pyelitis as it would lead too far afield. There is no doubt that it is made worse, if not caused by pressure of the gravid uterus on the ureters. So the logical treatment would be to relieve this pressure by posture, the knee-chest position to be taken several times each day for as long a period as the patient can, without too much tiring, and then assume the latero-prone posture on the side opposite the affected kidney. If possible elevate the foot of the bed so the patient can lie with the head and shoulders lower than the hips. Where a colon bacillus infection is present, render the urine strongly alkaline as rapidly as possible. Urinary antiseptics may do some good but I have lost faith in them. Large amounts of soft water

and a bland diet with rest in bed helps greatly to overcome the infection. If rapid improvement does not follow, or in the presence of high temperature, chills, sweats, vomiting and prostration, resort should be had to ureteral catheterization, leaving the catheters in the ureters for from 24 to 48 hours. Drainage from these is often stopped by a plug of mucus, pus, or blood, so that they must be continually watched and if necessary washed out. In spite of all these things some cases go from bad to worse and abort spontaneously or may have to have the uterus emptied as a life saving measure to the mother. I have seen one fatal case that died 26 days post partum. She had a severe pyelitis the last three months of her pregnancy and delivered a living baby, but so great destruction of her kidneys had taken place that she succumbed.

One of the greatest and most frequent benefits to be derived from prenatal care is prevention and early detection of toxemia. This is accomplished by attention to the diet, drinking large amounts of water to assure elimination through both the kidneys and bowels. It often taxes the ingenuity of the physician to prevent pregnant women from indulging in the grossest dietetic orgies. For generations they have been told they are eating for two and since the food tastes good they give themselves up completely to eating indiscriminately of the richest foods obtainable. The average woman gauges the amount she eats by the amount she can swallow instead of how much she needs. There is little wonder the overworked organs fail when one considers how badly they are over loaded with work. Add to this, lack of rest relaxation and worry, together with the increasing tax put on them by the growing foetus and we have everything ready for toxemia. Exercise in the open air, with proper amount of rest and freedom from worry of every kind, that is a happy state of mind will help to ward off trouble. I believe every woman who becomes pregnant should immediately start to build herself up and harden herself physically by continued care if she hopes to successfully meet the greatest stress



of her life. She should be as well conditioned during her pregnancy as though she were an athlete training for a world championship. We so often have these women come to confinement in such a poor physical and nervous state that there is little wonder they are so long getting over the effects of it and so often unable to nurse their babies. When a sudden rise in B.P. follows a rapid gain in weight we have our first warning of a developing toxemia. These two symptoms practically always precede urinary findings and should warn us to act immediately, for it is a potential toxemia. Why wait for albumen, suppression of urine, casts, edema, blotchy skin, epigastric pain, eye symptoms, headache and convulsions? If the profession would only take an active part in these cases early and treat them from incipency as thoroughly as they do other serious conditions very few of them would go on to severe toxemia. No physician would let a suspected typhoid go about her usual routine, eating her usual diet and wait until perforation or hemorrhage takes place before putting the case to bed and properly supervising her diet and other matters that might interfere with her recovery. He would see that every detail of management was being carried out, not trusting to the whims or judgment of the patient or her attendants to carry her through. Yet pregnant women go on displaying one danger signal after another without active measures being instituted to check the tragedy until the crash comes. And when it does come how often dynamite in the form of accouchment force, cesarean section, *et al*, is resorted to for clearing the wreck. Then, at the onset of these two early symptoms, treat the patient actively. She should be put to bed in as quiet a place as available and removed from all sources of worry and nervous irritation. Sedatives should be administered to obtund her nervous system, usually bromides and chloral will suffice. The diet should be restricted with exclusion of both animal and vegetable proteins. Start active elimination, by means of diuretics and cathartics. Magnesium sulphate will often answer both purposes and frequently the

whole picture is changed in from 24 to 48 hours. If there is edema with retention the diet should be salt free. Nephritin will often stimulate the kidneys in a threatened suppression. Miller reports good results with heparmore in threatened toxemias and thinks he has been able to control blood pressure by it. Some of these early cases respond to thyroid feeding. The blood pressure should be taken as often as the gravity of the symptoms indicate. If no improvement the patient should be put to bed in a hospital, given morphine in doses sufficiently large to submerge her, and magnesium sulphate 10 c.c. of a 25 per cent solution deep in the gluteal region. With a continued rise of blood pressure, bleed 300 to 500 c.c. and give glucose in the vein, to prevent hypo-glycemia and promote diuresis. Miller has given grave cases 10 c.c. of heparmore every hour for a number of doses. The more serious the case the greater is the indication for pushing the use of morphine. Usually the patient falls into labor spontaneously. Improvement of her condition should be awaited before instituting labor. The method chosen must depend on the condition of the patient, her parity, development and size of the foetus and the surroundings. It should never be by accouchment force or any method that will be attended by surgical shock. We must always bear in mind that these patients are poor surgical risks and that they are easily infected. Time is too short to go into the details of the treatment of these complications as they should be. I hope the outline of treatment given will bring out a full discussion of the different details by various members of the society.

—R—

### Post-Natal Care

M. W. HALL, M.D., Wichita

Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

Post-natal care, or prophylactic gynecology, for that is what it is really; for, to do either obstetrics or gynecology, you must know both. A convenient classification of the post-natal period, both as to treatment and discussion, would be to

divide it into the lying-in period and the time when the patient is up and about.

The management of the post-natal period really begins with the third stage, the character of which has such a vital influence upon the patient. I refer mainly to hemorrhage, infection, and the nature of the repair work. A full discussion of either is out of the question here as they are a subject in themselves.

A very good way to treat hemorrhage is to anticipate it. Be sure that all secundae have been delivered. If you have any part of it left in the uterus, get it. Just as soon as the baby is delivered we give one-half c.c. of pituitrin per hypo. This is the one place pituitrin is indicated. I have made that a routine for ten years and have yet to see my first case where its action was injurious to the patient in any way. It gives you a short third stage, a nicely contracted uterus with a great reduction in the usual loss of blood.

In controlling a post partum hemorrhage where the uterus fails to contract, especially over the placental area as they do sometimes, or for any reason for that matter, using a 20 to 23 gauge needle one and one-half inches in length, give one c.c. of pituitrin direct into the uterine muscle through the abdominal wall. It will always respond and it is the quickest and the most sure way of controlling post partum hemorrhage and less dangerous, in my opinion, than trying to pack a uterus with any kind of technique. We have all seen them bleed through the pack and back of it. I have not packed a uterus for hemorrhage since serving as an intern. Pituitrin is always followed by ergot, one dose, intramuscular, soon after the placenta is delivered. And as a routine, the patient is given a capsule containing quinine bisulphate gr. 5, and strychnine gr. 1/60 a.m. and p.m. for ten days. It does not disturb the stomach and only occasionally do we find a patient having an idiosyncrasy for the quinine.

Many of the temperatures while the patient is still in bed, are due to the lack of drainage; to obviate this it is our custom to sit the mother up a few notches in bed starting as early as the second

and third day, unless the stitches are in such condition that it would be contraindicated. The knee chest position starting on the seventh, eighth or ninth day, depending on the condition of your patient, will do a lot to prevent pelvic congestion and help very materially to correct a retroversion or prevent one from developing. This should be carried out twice daily for at least six weeks.

The old custom that a patient is to get out of bed on the tenth day is all right if the uterus is back in the pelvis and the lochia is no longer sanguineous. After the tenth day, if the uterus can be palpated as much as two or three fingers above the pubes and there is a dark red lochia, you are dealing with a subinvolution, an unhealed lacerated cervix, with some type of infection present or an infection some place in the adnexa. This is a condition so often found following hemorrhage and excessive trauma. Multipara more frequently hemorrhage and so often they give a history of a subinvolved uterus and endometritis and endocervicitis. Treat these conditions and prevent a hemorrhage the next time.

The treatment that gives the most marvelous results of any other operation in obstetrics is blood transfusion following post partum hemorrhage. Why it isn't used more is somewhat of a mystery. It is not a difficult operation, only the technique is very exacting but not difficult. A few ounces of blood at the proper time will save your patient many gallons of tonic and do her infinitely more good.

The repair of cervical lacerations should be done only if the doctor be surgically qualified and it is distinctly a hospital procedure, especially if it be the repair of an old laceration. Trimming away of old scar tissue and the granulation of an old endocervicitis gives unusually good results and something that your patient will appreciate as she will the repair of old perineal lacerations. These are best done just following the third stage. If you wait several days you have an infected lochia to work in and the work is not nearly so satisfactory. And too, the patient isn't very willing to go back to an operating room



and take another anesthetic, and you can't blame her. It is bound to be disturbing. A severe hemorrhage or an exhaustive labour would be your contraindications. I think we even get better results making the repair of these old lacerations following delivery than at any other time. Using four or five silk-worm gut sutures and tying the perineum together in a bunch is not making a surgical repair. Coaptating the anatomical parts as you would in the abdominal wall is the only technique that will give you the satisfactory results.

Caring for the bowels by giving castor oil on the second or third morning seems to be a universal custom, and is sometimes indicated. Many times the oil nauseates the patient. A daily cathartic administered to a patient who is in bed ten days or two weeks quite often leads to constipation. I seldom ever give castor oil or any other cathartic except mineral oil, one-half ounce morning and night, and an enema, and quite often the enema is not necessary. When used with the aid of the oil it is much more satisfactory and the mother is much less liable to be constipated following her postpartum period.

The amount of urine passed and the frequency should be noted. Quite often a patient will void two and three ounces every few hours and complain of suprapubic pain and back ache and on examination you will find a distended bladder. The bladder and kidneys have had to take a lot of punishment during the pregnancy and labour and they certainly demand attention postpartum. A distended bladder may be the etiological factor in a postpartum hemorrhage and in a cystitis or a pyelitis. Having the patient drink quantities of hot lemonade just after delivery is to be recommended. Warm lysol compresses over the genitalia reduce the edema. Sit the patient up in bed and give sedatives to reduce the nervous strain and as a last resort catheterize. She should not be permitted to go longer than eight to twelve hours without emptying the bladder, depending on the amount of urine secreted.

The bladder is in a very receptive condition for an infection. It is quite often

paralyzed temporarily and does not empty itself completely; often torn loose from its attachments to the pubes and a urinalysis will practically always show blood from contusion following delivery. It is somewhat difficult to catheterize a patient several days post partum with the infective lochia present and not infect the bladder. For several years, following catheterization I have two drams of mercurochrome instilled into the bladder. I feel that it is a very good precaution.

One of the most discouraging things to contend with in post partum care is the proper milk supply. A fault which is largely due to the care of the breasts, and has its beginning in the early life of the mother—her insane desire to simulate the boyish figure, strapping the breasts down with the brassiere until they have very little glandular tissue left and what they have is dragged down to their waist line and in after years, when they have children, they expect an organ so abused to function normally. It is sometimes quite a problem to have them wear the proper support during pregnancy and carry out treatment so the breasts will develop normally. If the mother's nipples are in such condition that it makes nursing very painful, it is most difficult to gain her cooperation, a thing very necessary in the early nursing period.

When the nipple is fissured or has abrasions and is bleeding, the application of silver nitrate, 4 per cent solution, to the fissure, the open air treatment and the use of the nipple shield at nursing, are to be recommended. Boric acid compresses and moist applications tend to soften the nipple and abrasions and blisters are much more readily produced. Open air or even the ultra violet ray allowing the nipple to dry after each nursing. If breast binders are to be used an opening for the nipple should be made so that it might not be kept moist by the milk secreting from the breast between nursings. The first few days until the milk has been established, nursing intervals of four to five hours will help to protect the nipple. Give a hungry baby an empty breast and it will have to be a

very tough nipple to stand the punishment. Ice caps and cold compresses will give the mother a great lot of relief during the stage of engorgement. When it has once been explained to her that it is not milk that is causing the painful breast, the ice cap for fifteen minutes will convince her that the pump and massage are both foolish and dangerous at this stage. After the milk has once been established and the baby fails to completely empty the breast at each nursing the pump or expressing may be necessary. Diet scant in liquids on third and fourth days will help to control the stage of congestion. Forcing fluids, stuffing the patient with foods rich in carbohydrates and forcing chocolate and cocoa, etc., between meals to increase the milk supply will quite often produce the opposite results. A plain nutritious diet is to be preferred.

When the time comes for the patient to be up and about her household duties, is the time she is most neglected by her physician. If we have gotten her that far, too many times we feel that our services are at an end. I will admit that a case that is normal up to this time is quite likely to be all right, but not all cases are normal. How many are? I wish I knew what about the retroverted uterus and endocervicitis. They need to be taken care of. Many times we have patients coming to the office complaining of a vaginal discharge, back ache, etc., dating from the last child birth, and you get so curious you are almost tempted to ask who her last doctor was.

Relaxed abdominal wall and perineal muscles, subinvolved uterus and endocervicitis, are all a result of the pregnancy and better than seventy-five per cent unnecessary. She should wear a light corset properly fitted, (not the rubber girdle so many do wear) to give the abdominal muscles the proper support until their relaxed condition can be corrected by the proper setting up exercises. The "large stomach," the relaxed abdominal muscles and pad of adipose tissue on the lower abdomen, the patients worry so much about, can be corrected entirely in most instances. When you explain to them that the pad of fat is

for their protection and that it will disappear if they will carry out the exercises necessary to strengthen the abdominal muscles to furnish the protection, you will have very little trouble gaining their cooperation.

I would like to emphasize the necessity of your having the patients come back to the office for an examination in four and six weeks and in three months and to report anything unusual about their first menstrual period. Examine the cervix with the speculum. This is the time to treat that cervical erosion and the lingering vaginal discharge before we get an extension up into the uterus. If your mercurochrome or hexylresorcinol S. T. 37 do not clear it up in a few treatments the application of the electric cautery will do the work. It is a good plan to use the antiseptic solutions a few times thus clearing up any mixed vaginal infections that might be present, then the work of the cautery is more satisfactory.

See that the uterus is in the proper position and is normal in size. A retroverted uterus that is of normal size will very seldom produce any symptoms. It is the large subinvolved type that gives the trouble and they will very seldom remain in the proper position without some support. Before using a pessary to maintain the uterus in its proper position all infection must be cleared up. When that is done your patient will seldom need the pessary. A pessary worn for any length of time will quite often produce a chronic inflammatory condition which is certainly not very desirable. They are a therapeutic device seldom indicated.

Examine the abdominal muscles, see if she has regained the proper muscle tone. It's possible you didn't impress upon her the importance of the exercises. You see her mother had relaxed abdominal muscles and she expects it. Let's make them forget the kind of care their mothers had. We are not telling the patient but we are not particularly proud of the obstetrical work in our mother's time and the quicker you and I can make them forget that a certain amount of misery is to be expected, just that much better it is going to be for all of us.



It has not been so long ago that patients have been demanding prenatal care. Perhaps you didn't know that they are. Maybe that is what has become of your patients, gone to the doctor who gives it and in the future if you don't stress your postnatal care a bit more it might be the reason why they don't come back the second time. The public is becoming "medical wise" and it is the one way to combat the "isms" and it is the way for the patient to get the proper treatment. Let's educate the public a bit more.

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### The Handling of Early Tuberculosis

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Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

While tuberculosis is one of the oldest known disease-complexes that affect mankind, it is ever new. Its concepts are continually changing, and, as knowledge of the disease grows, a realization of its protean ramifications throughout the entire animal kingdom is continually drawing the disease-entity away from the idea of a clear-cut individuality affecting only certain individuals at certain periods of adult life. Each new set of concepts places the time of infection further toward the beginning of life and relegates previous signs and symptoms, considered as pathognomonic of incipient tuberculosis further to the rear and replaces them with newer signs by which the disease may be recognized earlier. In other words, as time goes on, incipient tuberculosis becomes more and more incipient.

Any revolutionary change in thought or knowledge brings with it confusion, and such is certainly the case with tuberculosis. At first the few who promulgate the newer ideas are considered visionaries and dreamers. Absolute proof is demanded of them; it cannot be given according to the then existing standards. So the newer ideas gain footing but gradually and find their way slowly into the teachings and texts. But get there they do, and they are drilled into the student of medicine as basic facts. One accepts them as such until he meets with resistance from the older

physician and his charges. He is forced to compromise, for the enthusiasm of youth cannot overcome the barrier of crystallization of ideas of middle-age or the superstition of the masses. From necessity the younger practitioner becomes vague and contradictory to others and to himself—for he needs must eat.

The confusion grows apace; the general practitioner is caught between the millstones of the old and the new. In despair he concludes that he knows nothing about the whole matter and that he wishes to know nothing. And he cannot be blamed for this attitude, for his older confreres stake all upon the mountains of the West; the sanatorium superintendent upon institution treatment; while the physiotherapist lauds his wares as almost the panacea for the Great White Plague. To complicate matters still further, each of these champions is absolutely right—as far as he goes. Each can irrefutably prove that he is right—in some cases and to some extent—but he does not go far enough. But so convincing are these champions in their enthusiasm and case-reports that the good *medico-generalis* throws up his hands. The muddle seems to be inexplicable.

But the solution of most seemingly inexplicable enigmas is usually relatively simple when the key-idea is found and applied; the rest of the puzzling facts fall into their various places easily. So, in the light of our present knowledge, it seems to be with the enigma of tuberculosis. With the key-idea in his possession, the general practitioner can recognize and handle early tuberculosis satisfactorily; the various clashing contentions are seen to be all founded upon correct premises.

This paper will attempt to propound the key-idea concerning the recognition and handling of early tuberculosis of the chest, as gleaned from a twelve-year study of the disease in private and charity practice and clinic, and in the tuberculosis sanatorium.

At the very beginning, let one fact be fixed in the mind—there is a distinct difference between tubercular infection and tubercular disease (tuberculosis) as a

clinical entity, as described in classical medical literature. While this distinction is, perhaps, merely one of degree, it is, nevertheless, clear-cut. Just as there is a distinct difference between lobar pneumonia as a distinct disease and the mere harboring of the pneumococcus in the throat or bronchial tree, or between actual streptococcus infection and mere streptococcus carrying, so is there a difference between clinically active tuberculosis, as recognizable by the older standards, and tubercular infection.

Heretofore, the diagnosis of tuberculosis of the chest depended upon the recognition of certain local signs, and, until these were found, a definite diagnosis of chest tuberculosis could not be made. Since the manifestation of these signs depended upon the mechanical production of various phenomena by masses of actual physical matter in the lung tissue, it can readily be seen that a case needed to be advanced to the stage where the disease had actually invaded the lung parenchyma before it could be recognized. The newer concepts of the disease, however, recognize other signs whereby a diagnosis of chest tuberculosis may be made with assurance before the pathological processes have invaded the lung tissue. These diagnostic signs are divided into three different sets, as follows:

1. Toxic signs, arising from the effects of the toxin of the disease upon the body physiology, especially the nervous system.

2. Reflex signs, arising as the result of the irritation of pathology in the mediastinum, hilum, and lung.

3. Local signs, phenomena produced mechanically by actual pathological masses in the chest, especially in the lung tissue.

The toxic signs appear first in the course of the disease and are, per se, not diagnostic of the disease. They are simply the toxic effect of a low-grade, long-continued bacterial poison. The reflex signs appear second; they are the localizing agents by which the toxic signs are orientated. The local signs appear last and are the last demonstrable. These three sets of signs may be exemplified

by the three stages of any infectious disease: (1) the stage of incubation (toxic signs); (2) The stage of invasion (reflex signs); and (3) the stage of pathology (local signs).

In any infectious disease where treatment is of avail the earlier it is recognized the sooner that treatment may be administered and recovery hastened. This is especially true in tuberculosis, the earlier the diagnosis is positively made the simpler the treatment and the more effective the recovery. By a combination of the toxic and reflex findings, tuberculosis of the chest may be recognized before it becomes pulmonary in type, and it may be so recognized by the general practitioner and cured by him with a minimum expenditure of time, money and therapy.

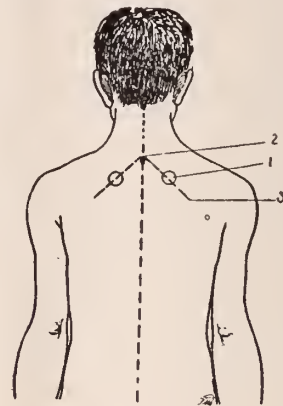


FIG. 1

1. The alarm zone. 2. Space between the spinous processes of the seventh clavicle and first dorsal vertebrae. 3. The tubercle of the trapezins.—From Fishberg's *Pulmonary Tuberculosis*.

It is becoming generally recognized that tuberculosis is, almost without exception, a childhood infection. By a beautiful study of the autopsy work of Opie, of St. Louis, and the tuberculin work of Maiocchi, of Paris, Fishberg has shown that, although the newborn are practically free from tubercular infection, by the end of the tenth year over 10 per cent of humanity shows such infection; by the end of the fifteenth year 90 per cent are infected; and by the end of the eighteenth year practically everyone shows past or present infection. By this same work Fishberg also showed that, at the age of 17-18 years there were 77.4 per cent of active lesions and only 22 per



cent of healed lesions in autopsies on persons who had died of diseases and conditions other than tuberculosis, and in whom it had not even been suspected. This work is a convincing proof that tuberculosis is a disease whose processes take place slowly through years and decades instead of months.

Only after the seventeenth year of life are to be noted at autopsies latent and healed tuberculous lesions, and they keep on increasing in frequency, so that at the age of forty they are more frequent than progressive lesions. The following table, as well as Fig. 3, shows the point clearly:

Age	Active lesions Per cent	Latent and healed lesions Per cent
17 to 20.....	77.4	22.6
20 to 30.....	76.7	23.3
30 to 40.....	52.6	47.4
40 to 50.....	38.9	61.1
50 to 60.....	33.5	66.5
60 to 70.....	23.3	76.7
70 to 80.....	14.7	85.3
80 to 90.....	9.3	90.7
90 to 100.....	0.0	100.0

(from Fishberg)

These data must be considered underestimates, rather than overestimates, because while dissecting lungs and pleuræ slight and healed lesions may be overlooked, unless serial sections are made.

It takes years, in a normal case of chest tuberculosis, to bring the patient to a stage where the diagnosis may be made from the detection of actual pathology in the lung, either by physical examination or radiographically. In the interim he is not physically healthy and suffers from repeated exacerbations of symptoms which often baffle physician and surgeon alike. During this time arrestment may take place under treatment being given for some other suspected condition, and then the physician or surgeon in charge of the case at the time is given or takes credit for an acuity of Æsculapian endeavor which is not perhaps fully due him. A correct diagnosis of tuberculosis is not often made during

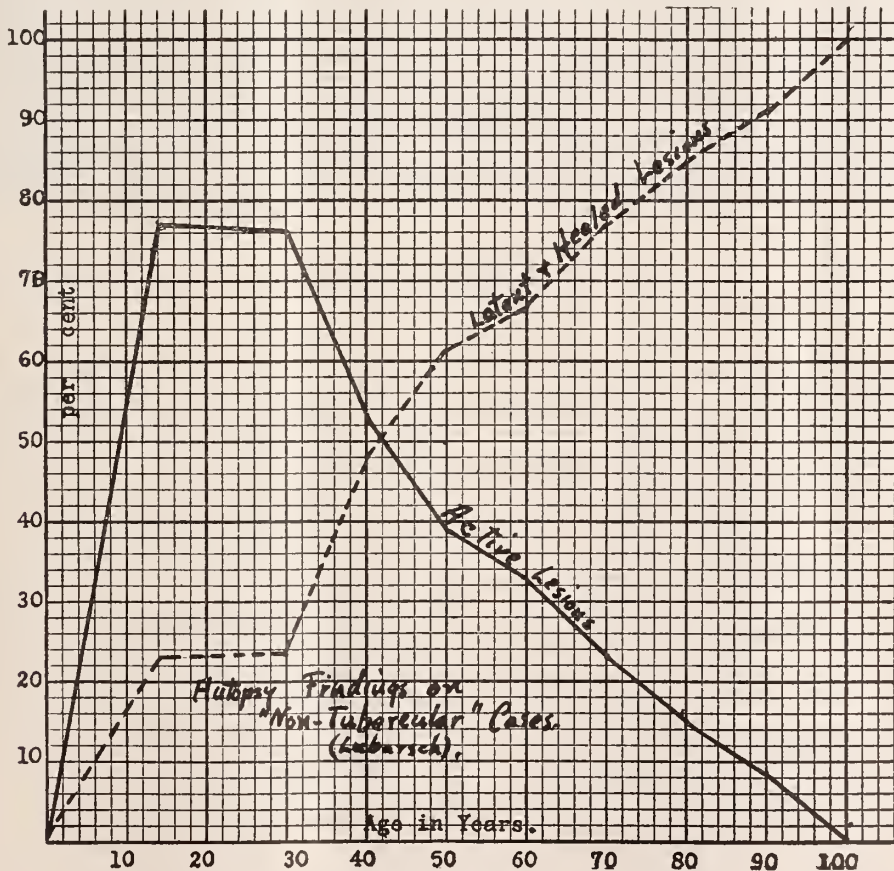


FIGURE 5  
Graph showing positive findings of tubercular infection, both on autopsy and tuberculin reaction. (Adopted from Fishberg).

this interim because the examiners are seeking for evidences of actual pathology in the lung tissue. It has not yet reached there; were it there it would readily be found.

During the interim between the time of infection and that of diagnosis or arrest, there is actual pathology present, but not in the lung; it is first in the me-

An understanding of the mechanism of the various diagnostic signs and symptoms is best grasped by following the pathology from the time of infection. The bacillus is a slow-growing organism which is relatively benign. Its endotoxin filters but slowly through its fatty capsule and the body sets up only a mild reaction to its invasion. The consensus of

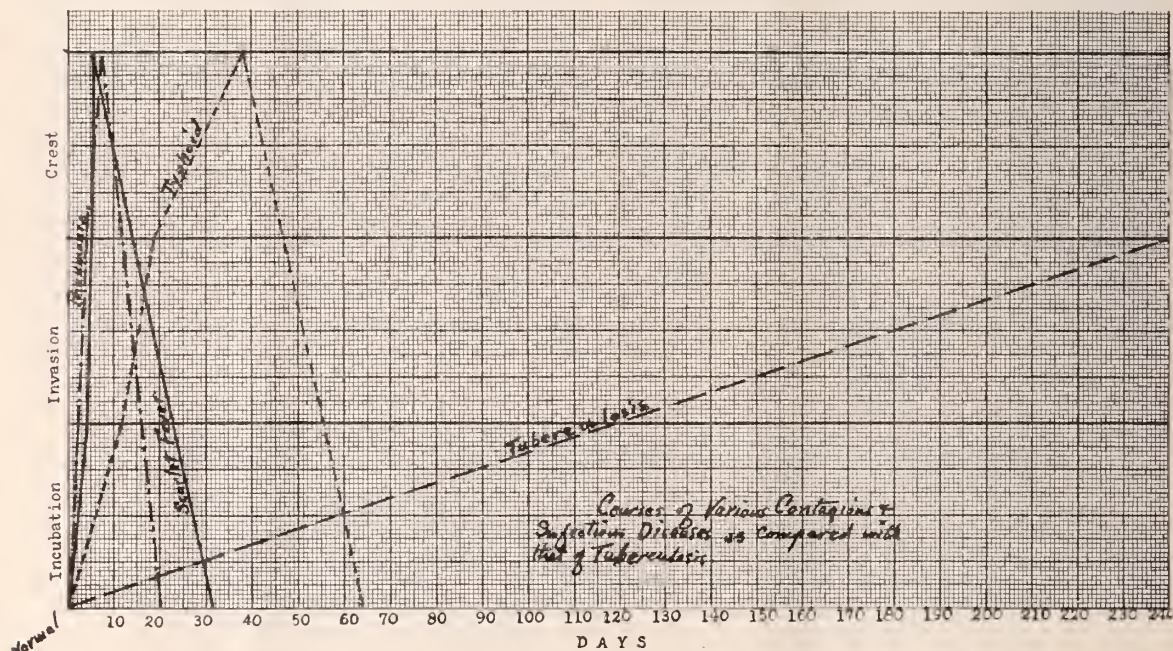


FIGURE 6

Chart showing the course of chest tuberculosis as compared to those of Pneumonia (——), Scarlet Fever (——), and Typhoid Fever (——).

diastinum and later in the hilum. Normally it takes years for the pathology to break from the mediastinum into the hilum and thence into the lung tissue. While the pathology is confined in the mediastinum as enlarged peritracheal glands, it is almost impossible to detect it by physical examination. Anyone attempting to diagnose any sort of mediastinal pathology will appreciate the difficulty of attempting to find a pathological process among the matted mass of mediastinal structures. While the *x-ray* is of aid, it does not give positive information. While it is extremely difficult to detect mediastinal tuberculosis by physical examination, it is relatively easy to ascertain its existence by means of the toxic and reflex signs.

opinion at the present time is that ingestion is the most general mode of infection. The bacillus enters the stomach either with food or from the pharynx with swallowed saliva. After passing into the intestine the bacilli are taken into the mesenteric lymph glands, passing thence through the lymphatics and heart into the pulmonary circulation. In passing through the capillary circulation of the lung, they set up embolic foci in the lung parenchyma. The parenchyma seems at first to be able to take care of the bacilli by draining them back into the peritracheal lymph glands. It is only when the pathology enters the lung by way of the hilum that widespread destruction of lung tissue takes place. If the drainage into the peritracheal glands



continues until they are overfilled, the excess bacilli overflow into the peribronchial glands. By successive stages these various lymphatic-tissue barricades are broken through and the infection

fatty capsule of the bacillus itself and the connective-tissue defenses, also perhaps by immunological processes, seeps into the blood stream very slowly, it causes no such cataclysmic upheaval as

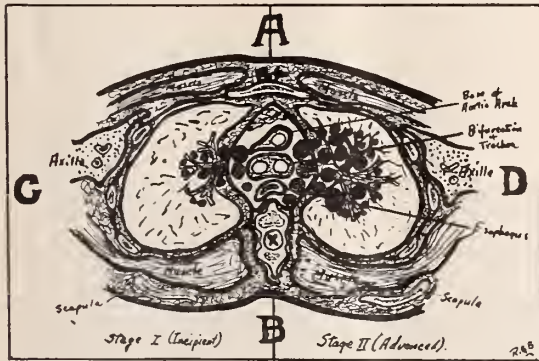


FIGURE 7

Cross Section of Thorax at Beginning of the Aortic Arch. STAGE I shows enlarged mediastinal glands and beginning fibrosis in the hilum (an incipient case). Auscultatory and percussion sounds at positions A, C, and D are completely absorbed by intervening soft tissues. Only at position B where there is a continuous bony conduction-path are the sounds transmitted to the surface (D'Espine's Sign).

STAGE II shows the fibrosis extended into the lung tissues sufficiently so that the intervening soft tissues are insufficient to absorb the adventitious sounds, which are heard by the examiner as "auscultatory" or "percussion" sounds. This stage, whether in the apex or lower down, is no longer an "incipient case."

reaches the hilum and then invades the lung tissue.

Not until the pathology reaches to and through the hilum is the examiner able to elicit the classical findings of pulmonary tuberculosis—increased breath and voice sounds, impaired resonance, moisture, etc.—which do not become evident until years after the process began. Before the toxic and reflex signs were worked out, one was forced to wait until this stage before a diagnosis of active pulmonary tuberculosis was possible. But with them a diagnosis may be made when only the mediastinal glands are affected; they point unerringly toward the mediastinum as the seat of pathology, and the combination of the toxic and reflex signs (neither of which, per se, are diagnostic of tuberculosis) forms a symptom-complex which is carried by no other disease and which is as infallible as any diagnostic hook-up in medicine.

The Toxic Signs appear first in the course of the disease—usually in the first decade of life. They are caused by the slow liberation of toxin into the blood stream, and they are general in character. Since the toxin, hindered by the

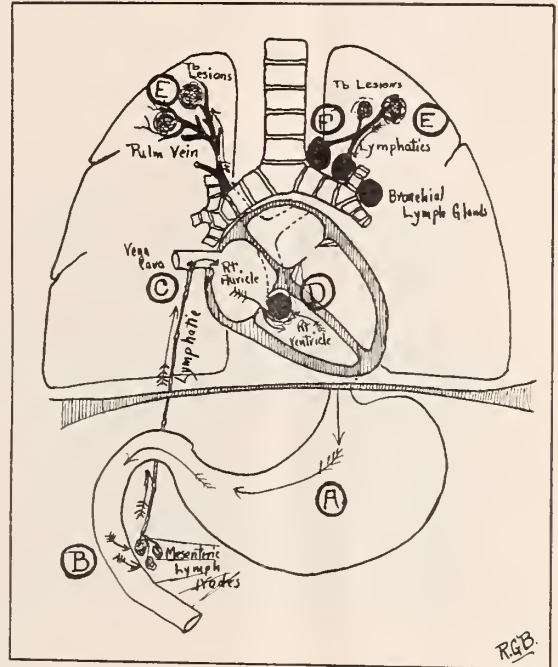


FIGURE 8

Schematic drawing showing course taken by tubercle bacilli in ingestion infection.

does the toxin of diphtheria or kindred diseases. The reaction of the body is correspondingly slow, the patient is too well to be really sick, but too sick to be really well. As with most soluble bacterial toxin, tubercular toxin affects the nervous system first. This effect may be manifest as a sympatheticotonia or a vagotonia. Lack of space precludes detailed discussion of these phases here. In general, the toxic signs are:

1. White sclera.
2. Rachitic symptoms.
3. Accelerated pulse rate, (or) retarded pulse rate.
4. Early fatigue.
5. Malaise.
6. Nervousness.
7. Morning weakness.
8. Cold, clammy hands.
9. Evening stimulation.
10. Hyperpiesia.
11. Emotional irritability.
12. Slight afternoon temperature.

13. Mental toxemia.
14. Muscle irritability.
15. Accelerated respiration.
16. Lowered hemoglobin per cent.
17. Acidity of urine.
18. Clubbed fingers.
19. Urochromogen test.
20. Psychotic acts.
21. Winged scapula.
22. Prom. clavicles.
3. Cough (light, hacking).
4. Muscle tension and hypertrophy.
5. Restricted motion (lagging).
6. Muscle relaxation and atrophy.
7. Anisocoria.
8. Pleuritic pain.
9. Shoulder pain.
10. Pain over hilum.
11. Hyperesthesia.
12. Vasomotor irritability.



FIGURE 9

Figs. 96 and 97—Composite drawings showing the relationship of the bronchial glands to the thoracic wall in the adult. The glands are according to Sukiennikow, and the trachea and bronchi are after Blake (*Am. Jour. Med. Sci.*, 1899, 117, 320). In the child the trachea bifurcates at about the level of the intervertebral disk between the fourth and fifth thoracic vertebrae, which corresponds nearly to the tip of the fourth thoracic spine. This is about opposite the articulation of the third costal cartilage anteriorly. (Stoll.) (From Fishberg, *Pul. Tb.*)

The reflex signs are phenomena produced by reflex irritation of the affected mediastinal glands upon the structure about them—nerve pressure, irritation, etc. In many instances they are semi-permanent changes in the actual tissues of the body—muscle tension, muscle atrophy, etc. Reflex irritation is transmitted through the corresponding spinal segment to the surface structures of the body, first causing a hypersensitivity of the surface structures of this segment (skin, muscles, glands, sensory and sympathetic nerves) and later an over-use atrophy of them. Pottenger, in his book, "Symptoms of Visceral Disease," has traced this reflex path with beautiful precision. When these reflex signs are combined with the toxic signs and the history of the case, they point infallibly to mediastinal and hilar tuberculosis. They are:

1. Irritation of throat.
2. Hoarseness.

13. Hyperacidity (vagus stim).
14. Hypoacidity (sympathetic stim).
15. Muscular twitching.
16. Impairment of appetite.
17. Appendix, gall bladder pain.
18. Flat chest.
19. Hilus dimple.
20. Apparent kyphosis.
21. Irritation of nasal and phar. mucosa.
22. Dyspnea or asthma.
23. Prominent or horizontal clavicle.
24. Round shoulders.

The local signs of tuberculosis are too well known to be discussed here. They are produced by actual pathological processes in the lung tissue, such as moisture, connective-tissue reaction, destruction of tissue, severance of blood vessels, bacilli, etc. When they are in evidence sufficiently to enable a positive diagnosis to be made from them, the case in question is no longer in its incipency.



The chances are that it has been progressing for five, ten, or fifteen years or more—most often over a decade, since local signs are rarely found before the age of 15 years in a normal case. They are:

1. Prolonged expiration.
2. Increased breath sounds.
3. D'Espine's sign (also incip).
4. Increased whisper and voice.
5. Increased tactile fremitus.
6. Diminished Kronig's isthmus.
7. Slurred vowel sounds.
8. Cog-wheel respiration.
9. Sputum (+ or —).
10. Rales and moisture.
11. Enlarged venules in skin.
12. Hemoptysis and hemorrhage.
13. Pleural rub.
14. Impaired resonance.
15. Signs over cavities.



FIGURE 10

Cross section of cadaver showing the cushion of sound-deadening lung tissue between examiner's perception and hilar pathology.

There is no question that a diagnosis of tuberculosis may be made in the first and second decades of life, when it is still mediastinal or hilar in type. Also that, when made so early, treatment is simpler, shorter, and more effective. But today, with the present understanding, or lack of understanding of tuberculosis, the way of the physician, who makes a diagnosis of mediastinal tuberculosis on a child and attempts to convince the parents with a view to instituting treatment, is hard indeed. At this stage the convincing of the parents is 90 per cent of the battle, and a difficult 90 per cent it is. For it is difficult for the doting progenitor to realize that the child,

though it is too sick to be well and yet too well to be sick, can have the dreaded White Scourge. The child is toxic, excitable, capricious and finicky, and usually rules the household. And, until the doting mother is fully convinced that her child is tubercular, any attempt at systematic handling of the case is doomed to failure. Even after the parent is convinced, the following circumstances make it difficult to carry out the system of a treatment that is so easy that it is difficult:

Present Day Civilization: Lack of physical rest, lack of mental rest, lack of home life, civilized food.

Present Day School System: Mental driving, athletics.

Present Day Medical Science: Lack of understanding of full course of tuberculosis, impatience of results, attempts to mechanize therapy, too much dependence on drug therapy, too much dependence on physical agents.

Until the average physician understands the actual progress of tuberculosis, he cannot educate his charges. Until the public is brought to realize that tubercular infection is not the "Great, White Plague"—tuberculosis with actual pathology in the lung—rational treatment outside of an institution is very difficult to carry on and carry out to its ultimate end. The parents who have been told that their child harbors tubercular infection immediately run amuck; they go from physician to physician until they find one who assures them that he finds "nothing in the child's lungs"—that it is "only a little run down" and that a "little tonic will fix it up." The good physician was right—he found no pathology in the lungs, because none was there, and the remedial measures suggested by him often work wonders—for awhile. But, not being carried out for a sufficient length of time to allow complete arrest and subjugation of the disease, any prolonged physical or mental overstrain again causes an outbreak of activity, with a repetition of the procedure. This goes on until ultimate arrest takes place or definite lung pathology is found. Just as it takes years to bring a case to the point of breakdown, so it

takes years of handling to bring a patient to a point where he is not only free of active pathology, but also able to stand prolonged physical and mental strain. The treatment of a case merely until symptoms subside for a month or two is not a cure.

The next great step after the education of the average physician is the education of the public. It must be brought to realize that a child with tubercular infection in the mediastinum is in no danger of immediate dissolution and that treatment is easy and may be done at home with little expense. It must also be brought to realize that, with the increased demands of civilization upon the nervous and physical mechanisms of the body, the child with a tubercular infection must rest, rest, rest—mentally and physically. Also that its whole threshold of mental and physical activity must be lowered in order to compensate for the extra strength needed by the healing and reparative process of the body to overcome the infection before it breaks into the parenchyma of the lung. Until the public becomes thoroughly conversant with these facts, there is no question that the sanatorium is the best place in which to treat any stage of tuberculosis.

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### KANSAS MEDICAL LABORATORY ASSOCIATION

#### Why Sewage Treatment?

EARNEST BOYCE

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It is well for us to pause from time to time and look back over the road that has been traveled by those who have

studied the problems that we are interested in today. History gives us some valuable guide-posts and if properly read and interpreted, they will indicate a path for future progress. Our earliest records of man's attempt to govern his relations with his fellows is to be found in the Mosaic law and, in what we may call the sanitary code of that law, we find that attention is given to the importance of removing and safely disposing of human wastes. The requirements were as simple as the civilization of that early day, yet so fundamentally true that were they to be followed now we would have no hookworm problem. Modern sanitarians are now dealing in some parts of the United States with the same problem of human carelessness in matters of sewage waste disposal and with as direct a disease causation contact as recorded in the records of the past. Here history is truly repeating itself. It is human that we should learn by experience but experience has a negative teaching quality and is not positive. It warns us against past mistakes but too frequently leaves us lost for direction in the future. Fortunately, for this day and age, we are being guided not only by experience but also by the positive direction given by scientific study and research. We are permitted to know the why and how, and through this knowledge to better recognize our problems and the possible methods for their solution.

Just as our civilization and mode of life are more complex, so some of the problems that modern sanitarians are called upon to consider, are more complex than those of the early nomadic tribes. Sewage disposal, once the problem of the individual and later of the family group, has now become the problem of not only the community but in some cases the problem of a number of communities or cities occupying one water-shed.

Since the building of a system of sewerage for a city so easily solved some of the most serious problems confronting the sanitarian, it was quite proper that during the past years, emphasis should be placed on this one problem, the removal of wastes from a community. It



was true then as now that nuisances were being produced but methods for satisfactory treatment of sewage were not well developed and the nuisance was created not so much because it was not objected to but rather because no cure was known. Fortunately, most of our larger cities were and are located on rivers or bodies of water affording a volume of water for diluting the sewage to a point where an acute nuisance was not produced.

Because of this necessity to use the stream for sewage disposal, there has developed the theory that a city, because of its location on a river bank, had in some way acquired the right to use the stream for sewage disposal, at least, so long as such use did not detract from the value of the stream to others who might have other and possibly conflicting uses for the stream. Frequently there were conflicting usages, but there seemed to be little chance for redress for those whose claims conflicted with the serious need of the cities at that time.

We might accept the theory that by usage a city has in some way absorbed the rights of other riparian claimants, were it not for the fact that the amount and extent of this usage of the stream has been and still is an increasing one. Industry has added to the sewage burden and the rapid extension of sewers and the more general installation of modern plumbing makes the total amount of waste to be disposed of much greater, with a consequent like reduction in the usefulness of the streams to others.

The streams of a state are a part of its natural resources and their economic worth is measured by their ability to satisfy the needs of the citizens of the state. These needs are many and varied. They are not necessarily those which yield financial return. Many resources have an intangible value. When there were no methods of sewage treatment, other than dilution by the waters of the state, it is reasonable to presume that it was proper for the cities of the state to make what we should consider an emergency use of this resource, the value being measured by the capacity of the stream to dispose of sewage by dilution. With the developments in sewage treat-

ment during the past decade or two, there is reason to feel that this period of emergency has passed or is passing and that it is reasonable to expect that practices then resorted to be replaced by those which recognize the other uses of the streams and the rights of others in the drainage area to enjoy tangible or intangible benefits that were impossible with the stream in its polluted condition.

Our legal advisors will agree that under law, certain emergencies may arise where one group is warranted in appropriating private property for public good with just and proper compensation. This is based on the theory that such appropriation of property is necessary to the public welfare and that without such appropriation the public will be made to suffer a hardship. Because public property is public, there has been a tendency for groups to use it without thought of compensating anyone for such use.

We need to view these problems from the standpoint of the general public and not only from the viewpoint of that part of the public represented by those who live in cities using the streams for sewage disposal or those interested either directly or indirectly in industries discharging objectionable wastes into the public waters of the state.

Our policies of stream usage should be those which will serve this general public best without special advantages to some at the expense of others. Such usage is not necessarily uniform for all streams or even all places on the same stream. For example, Pennsylvania has classified the streams of that state into three groups allowing, in the interest of the general public good, different usages in each group. As a general rule, the public rights to a stream should control the usage of the stream, but much must depend on the type of stream and the usefulness to the public in its natural unpolluted state as compared with its usefulness as a drainage channel for removing some of the liquid wastes incident to the development of the area it drains. It is quite conceivable to have a stream whose greatest public usefulness is the removal of industrial waste and where a blind effort to preserve it for

aquatic life and domestic use would mean a real economic loss. Such use of streams may be unavoidable and essential to the development of the natural resources and industry of a district and justifiable only providing that harm not be done to other interests in the state of comparable value.

It is very important to remember, however, that any use of a stream that destroys or impairs its usefulness to the public or that portion of the public that might be classed as having riparian claims, results in a private loss to those individuals and a private gain to the city or industry responsible for the pollution. Any city or industry that finds it possible to use the surface waters of the state for the disposal of sewage wastes and by such use avoids the expense of providing adequate disposal facilities, is obviously financially ahead by the capital saving represented by the cost of such disposal plant and its capitalized operating charges. It follows, then, that any comprehensive plan for the control of stream usage should recognize the necessity for the proper adjudication of all riparian claims when a conflict of interests in the stream is unavoidable.

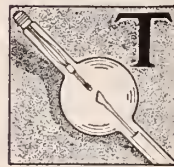
We think of sewage treatment as being necessary for two reasons, first, to protect the public health and second, to remove conditions objectionable to the senses. In this paper we are suggesting, in addition to these two well known and fundamental reasons, that there is a possible third—one that questions the continued right of a city or industry to use the public waters of the state for their individual sewage disposal needs without in some manner compensating the general public for such use. However, except in rare cases, such compensation would not be practical, and this third reason might be interpreted to question the existence of any further need to appropriate the waters of the state for such sewage disposal purposes. In this suggestion, it is fully appreciated that this viewpoint is to a certain extent debatable and that frequently economic expediency will make it necessary to use the streams of the state for sewage disposal and that the possibility of health hazards will

continue to be the controlling factor in deciding where sewage treatment must be required.

There is, however, an important difference between economic expediency and economic justice and when we are attempting to clarify our thinking as to what is right in the matter of stream pollution and the needs of sewage treatment, we must remember that economic expediency properly belongs to the emergency period and that as this period passes economic justice should replace expediency.

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## TUBERCULOSIS ABSTRACTS



THIS number is contributed by Homer L. Sampson, roentgenographer of Trudeau Sanatorium, who speaks with appreciation of the writings of investigators, such as Allen K. Krause, whose researches are shedding light on the evolution of pulmonary tuberculosis from the first invasion of the bacillus to the death of the tissue involved. He looks forward hopefully to the perfection of a method that will reveal the early macroscopic changes in the development of pulmonary tuberculosis in the living individual, and submits that at present the only aspirant to that honor is the roentgenograph. At the same time, he warns that the *x*-ray picture at best is but a link in the chain of evidence and that final conclusions cannot be drawn from it alone.

### Serial Roentgeneography and the Evolution of Pulmonary Tuberculosis

To allude to the "film" as a "living pathology" may be an exaggeration, but stereoscopic films of the chest may rank as a means of studying living pathology. Before such a goal may be securely established, however, considerable standardization will be necessary. This short resume describes a standardized technique that produces satisfactory results for the study of the evolution of pulmonary tuberculosis, together with a few remarks on the uses of such a method.



The *x*-ray "picture" is a most valuable aid in the diagnosis of pulmonary tuberculosis. The "film" also reveals a variety of shadow combinations in various phases of evolution that go hand in hand with the clinical course of the disease. It is desirable, therefore, that a method be evolved that will enable us correctly to register the various changes that are present in the lung or that may later take place. While the film reveals only shadows, these shadows portray an anatomical or a pathological condition existing in the chest. Yet, we are not to infer from this that the film reveals every anatomical or pathological change in the path of the ray; a small area of disease may be so located as to escape detection, due to the overlying denser tissues—*anatomical or pathological*. Nor is one always able to determine the character of the structure or outline of a given shadow. Experiments have shown that an object having geometric form may often be seen in a field, whereas one not having a definite shape or outline may be practically lost in the same field. Dr. Kennon Dunham has aptly used the aphorism, "shadows do not lie," but inexperience may make inferences faulty.

#### MANY ROADS LEAD TO ROME

There are many ways to obtain good films. The one important point is to be sure that the factors involved in the making of a film are as you suppose them to be. Also, it is not of so much importance that a film should be of an exact density as it is that one may be able to reproduce results that are within reasonable limits of density and comparable. The technique now in use at the Trudeau Sanatorium is as follows:

Eastman duplitized films—Eastman developer, 100 M.A. Coolidge Tube—Kelley-Koett Tube and Cassette shifter. Double Intensifying Screens. Snook Transformer. Distance 48 inches—milliamperes 100—time 1/15 second. Kilo voltage is variable for different chest depths.

A variety of opinions is held by many leading roentgenographers as to which technique produces the most satisfactory chest film. Two factors of considerable importance are the length of exposure

and the tube film distance. With the ever-increasing power of *x*-ray machines and tube capacity, it is possible to cut the time down to 1/120 of a second with the possibility of this being shortened; but the question arises, is there any need of working faster than a speed that is sufficient to arrest satisfactorily the shadows of the moving parts, which can be done in many instances with 1/15 or 1/20 of a second?

#### SERIAL FILMS ARE VALUABLE

Serial films in the study of the progression or retrogression of the pulmonary disease are valuable. This does not apply alone to pulmonary tuberculosis; but as pulmonary tuberculosis is so often a chronic process, it is not strange that investigators wax enthusiastic when they find how often the progress of the disease can be followed and how frequently the various changes that take place in the lungs fit in so nicely with the clinical or symptomatic behavior of the patient. At the Trudeau Sanatorium for the past ten years, the evolution of pulmonary tuberculosis in upwards of 3,000 patients has been followed over the usual period of residence at the Sanatorium. In many instances, the serial work has been carried on for years after discharge from the institution.

Early infiltrations have been followed through the various intermediate steps or phases until apparently a complete resolution or, as is more often the case, organized fibrosis takes place months or years later. Many collateral inflammatory reactions or new foci, as the result of repeated exacerbations, have been seen to develop in the course of the disease. These also can be seen to resolve or progress as the case may be. While many early changes can be recorded on the stereographic films, it is not to be inferred that the film is capable of registering the earliest tubercle formation. However, through experimental work instituted by Dr. Lawrason Brown and carried on at the Trudeau Sanatorium, we were able to demonstrate roentgenographically tubercles in the lungs of rabbits fifteen days after inhalation of bacilli.

## SHADOWS OF EARLY LESIONS

How long might the disease have existed before it registered on the films? There is no doubt but that the first proliferation of cells incident to the presence

ters. Where only one limited field is being studied, small stereoscopic or single films, size 5x7 inches or 6½x8½ inches, can be utilized to great advantage.

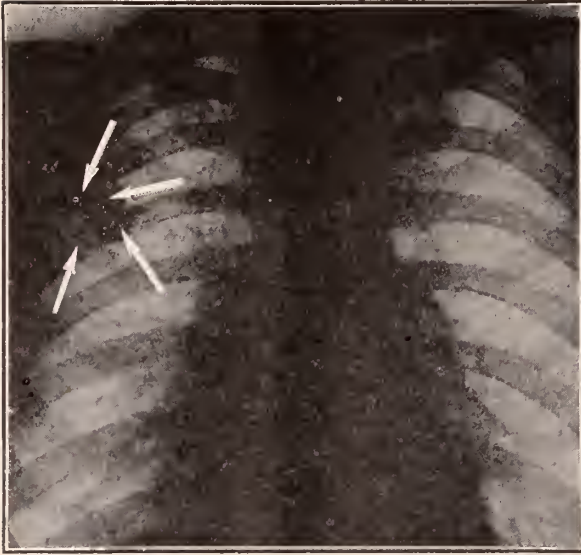


FIG. 1

Film taken prior to the administration of tuberculin, subcutaneously

of bacilli might easily fail to register a sufficient shadow to be recognized. This condition may occasionally be inferred when rales develop in an area where before there were none and when subsequently shadows appear in the film at this site. Cavity formation has been observed from incipency through the subsequent progressive stages until in some instances a whole lobe is excavated. In many of these cases, there is observed a zone of localized haziness surrounding the cavity wall.

Again may be observed the progression of cavity formation to the phase where it may cease to grow, followed by a slow or rapid dissolution of the so-called ring or annular shadow or area of rarefaction, until little or no trace is left of the previously present cavity.

Very recently, several films of certain cases have been taken as often as twice a week. In such instances, where specific foci are being watched, it has been possible to record very small changes taking place from time to time. The progression or retrogression of small cavities can be measured almost in millime-

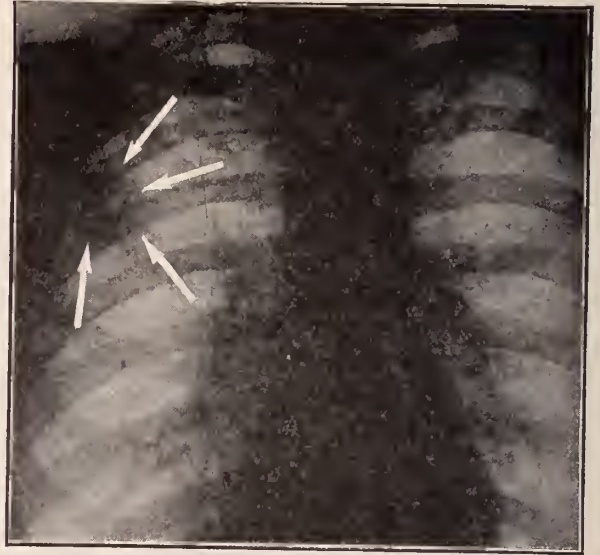


FIG. 2

Film taken during the height of tuberculin reaction. Note increase of area of cloudiness

In a patient manifesting definite symptoms, the physician is enabled often to direct his attention to other organs when serial films exclude the lungs as being the seat of trouble.

The advantage of serial studies is evident only after rigid standards are followed and checked up with the clinical and laboratory data at hand. Then the study of the pulmonary disease offers many avenues of interesting and instructive investigation.

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## RELAXATIVES

A Scotchman had been told by his doctor that he had a floating kidney. He was disturbed by the diagnosis and went to the minister of his church with a request for the prayers of the congregation.

"I don't know," said the minister dubiously, "I'm afraid that at the mention of a floating kidney the congregation would laugh."

"I don't see why they would," replied the sufferer. "It was only last Sabbath you prayed for loose livers."

\* \* \*

Murphy: "Did ye hear that poor Tim Casey's dead?"

O'Flaherty: "Ye don't say so?"

Murphy: "Yes, an' 'e's left all 'e 'ad to the Derry Poorhouse."

O'Flaherty: "How much did he leave?"

Murphy: "A wife an' ten children."



# THE JOURNAL

of the

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### ETHICAL ERRORS

In spite of its simplicity, in spite of the fact that one of the basic principles upon which it is founded is fairness, there is one section in the principles of ethics that has come to be quite generally ignored.

Section 2 of Article VI, reads: "It is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate service to his patient or which interfere with reasonable competition among the physicians of a community. To do this is detrimental to the public and to the individual physician, and lowers the dignity of the profession."

There is no ambiguity in the wording or phrasing of that section but very little attention is given it. There are in the medical profession, which first introduced the principle of fairness in the government of its members in their relations with each other, more violators of that principle than in all of the trades together, than in any other business or occupation.

There are two reasons for this condition of affairs. First, every one of these men considers his own interests first and always. Second, our organization rests upon such a feeble basis that it can not enforce its regulations.

There is no need to be specific for any sort of contract to perform an indefinite and unlimited amount of work for a definite sum of money is in violation of the spirit of that section, and any connection with an organization which contracts to furnish medical and surgical treatment to a thousand, fifty thousand, or a hundred thousand people, at prices that would beggar the physicians of a community is a direct violation of the provisions of the section referred to.

What can be done about it?

### PRINCIPLES OF ETHICS

By virtue of his membership every member of this Society is obligated to observe the provisions of the Principles of Ethics of the American Medical Association (see Sec. 4, Chapter XI of the By-laws.)

Laymen very freely criticise our principles of ethics and offer sympathy to a profession that must be governed by a set of regulations so antiquated. But they know nothing about them and could not state one of the articles with even approximate correctness.

Even members of the profession sometimes mention the principles of ethics as something to be tolerated because of its age but regretted because of some restrictions upon their liberties. And they know nothing about it and have most likely never read the text at all.

Neither laymen or members of the profession seem to grasp the idea that in the adoption of the original code of ethics the medical profession was anticipating by more than half century the

action of other professions and the various trades and industries. For these are coming to be governed more and more by the same basic principles of which the code of ethics was an elaboration.

Since our by-laws provide that members of this Society shall be governed in their relations with the people and with each other by these principles of ethics it seems desirable that they should have an opportunity to read them.

### Principles of Medical Ethics

#### CHAPTER I.—THE DUTIES OF PHYSICIANS TO THEIR PATIENTS

##### The Physician's Responsibility

Section 1. A profession has for its prime object the service it can render to humanity; reward or financial gain should be a subordinate consideration. The practice of medicine is a profession. In choosing this profession an individual assumes an obligation to conduct himself in accord with its ideals.

##### Patience, Delicacy and Secrecy

Sec. 2. Patience and delicacy should characterize all the acts of a physician. The confidences concerning individual or domestic life entrusted by a patient to a physician and the defects of disposition or flaws of character observed in patients during medical attendance should be held as a trust and should never be revealed except when imperatively required by the laws of the state. There are occasions, however, when a physician must determine whether or not his duty to society requires him to take definite action to protect a healthy individual from becoming infected, because the physician has knowledge, obtained through the confidences entrusted to him as a physician, of a communicable disease to which the healthy individual is about to be exposed. In such a case, the physician should act as he would desire another to act toward one of his own family under like circumstances. Before he determines his course, the physician should know the civil law of his commonwealth concerning privileged communications.

##### Prognosis

Sec. 3. A physician should give timely notice of dangerous manifestations of the disease to the friends of the patient. He should neither exaggerate nor minimize the gravity of the patient's condition. He should assure himself that the patient or his friends have such knowledge of the patient's condition as will serve the best interests of the patient and the family.

##### Patients Must Not Be Neglected

Sec. 4. A physician is free to choose whom he will serve. He should, however, always respond to any request for his assistance in an emergency or whenever temperate public opinion expects the service. Once having undertaken a case, a physician should not abandon or neglect the patient because the disease is deemed incurable; nor should

he withdraw from the case for any reason until a sufficient notice of a desire to be released has been given the patient or his friends to make it possible for them to secure another medical attendant.

#### CHAPTER II.—THE DUTIES OF PHYSICIANS TO EACH OTHER AND TO THE PROFESSION AT LARGE

##### Article I.—Duties to the Profession Uphold Honor of Profession

Section 1. The obligation assumed on entering the profession requires the physician to comport himself as a gentleman and demands that he use every honorable means to uphold the dignity and honor of his vocation, to exalt its standards and to extend its sphere of usefulness. A physician should not base his practice on an exclusive dogma or sectarian system, for "sects are implacable despots; to accept their thralldom is to take away all liberty from one's action and thought." (Nicon, father of Galen.)

##### Medical Societies

Sec. 2. In order that the dignity and honor of the medical profession may be upheld, its standards exalted, its sphere of usefulness extended, and the advancement of medical science promoted, a physician should associate himself with medical societies and contribute his time, energy and means in order that these societies may represent the ideals of the profession.

##### Deportment

Sec. 3. A physician should be "an upright man, instructed in the art of healing." Consequently, he must keep himself pure in character and conform to a high standard of morals, and must be diligent and conscientious in his studies. "He should also be modest, sober, patient, prompt to do his whole duty without anxiety; pious without going so far as superstition, conducting himself with propriety in his profession and in all the actions of his life." (Hippocrates.)

##### Advertising

Sec. 4. Solicitation of patients by physicians as individuals, or collectively in groups by whatsoever name these be called, or by institutions or organizations, whether by circulars or advertisements, or by personal communications, is unprofessional. This does not prohibit ethical institutions from a legitimate advertisement of location, physical surroundings and special class—if any—of patients accommodated. It is equally unprofessional to procure patients by indirection through solicitors or agents of any kind, or by indirect advertisement, or by furnishing or inspiring newspaper or magazine comments concerning cases in which the physician has been or is concerned. All other like self-laudations defy the traditions and lower the tone of any profession and so are intolerable. The most worthy and effective advertisement possible, even for a young physician, and especially with his brother physicians, is the establishment of a well-merited reputation for professional ability and fidelity. This cannot be forced, but must be the outcome of character and conduct. The publication or circulation of ordinary simple business cards, being a matter of personal taste or local custom, and sometimes of convenience, is not per se improper. As implied, it is unprofessional to disregard local cus-



toms and offend recognized ideals in publishing or circulating such cards.

It is unprofessional to promise radical cures; to boast of cures and secret methods of treatment or remedies; to exhibit certificates of skill or of success in the treatment of diseases; or to employ any methods to gain the attention of the public for the purpose of obtaining patients.

#### **Patents and Perquisites**

Sec. 5. It is unprofessional to receive remuneration from patients for surgical instruments or medicines; to accept rebates on prescriptions or surgical appliances, or perquisites from attendants who aid in the care of patients.

#### **Medical Laws—Secret Remedies**

Sec. 6. It is unprofessional for a physician to assist unqualified persons to evade legal restrictions governing the practice of medicine. It is equally unethical to prescribe or dispense secret medicines or other secret remedial agents, or manufacture or promote their use in any way.

#### **Safeguarding the Profession**

Sec. 7. Physicians should expose without fear or favor, before the proper medical or legal tribunals, corrupt or dishonest conduct of members of the profession. Every physician should aid in safeguarding the profession against the admission to its ranks of those who are unfit or unqualified because deficient either in moral character or education.

### **Article II.—Professional Service of Physicians to Each Other**

#### **Physicians Dependent on Each Other**

Section 1. Experience teaches that it is unwise for a physician to treat members of his own family or himself. Consequently, a physician should always cheerfully and gratuitously respond with his professional services to the call of any physician practicing in his vicinity, or of the immediate family dependents of physicians.

#### **Compensation for Expenses**

Sec. 2. When a physician from a distance is called on to advise another physician or one of his family dependents, and the physician to whom the service is rendered is in easy financial circumstances, a compensation that will at least meet the traveling expenses of the visiting physician should be proffered. When such a service requires an absence from the accustomed field of professional work of the visitor that might reasonably be expected to entail a pecuniary loss, such loss should, in part at least, be provided for in the compensation offered.

#### **One Physician to Take Charge**

Sec. 3. When a physician or a member of his dependent family is seriously ill, he or his family should select a physician from among his neighboring colleagues to take charge of the case. Other physicians may be associated in the care of the patient as consultants.

### **Article III.—Duties of Physicians in Consultations** **Consultations Should be Encouraged**

Section 1. In serious illness, especially in doubtful or difficult conditions, the physician should request consultations.

#### **Consultation for Patient's Benefit**

Sec. 2. In every consultation, the benefit to be derived by the patient is of first importance.

All the physicians interested in the case should be frank and candid with the patient and his family. There never is occasion for insincerity, rivalry or envy and these should never be permitted between consultants.

#### **Punctuality**

Sec. 3. It is the duty of a physician, particularly in the instance of a consultation, to be punctual in attendance. When, however, the consultant or the physician in charge is unavoidably delayed, the one who first arrives should wait for the other for a reasonable time, after which the consultation should be considered postponed. When the consultant has come from a distance, or when for any reason it will be difficult to meet the physician in charge at another time, or if the case is urgent, or if it be the desire of the patient, he may examine the patient and mail his written opinion, or see that it is delivered under seal, to the physician in charge. Under these conditions, the consultant's conduct must be especially tactful; he must remember that he is framing an opinion without the aid of the physician who has observed the course of the disease.

#### **Patient Referred to Specialist**

Sec. 4. When a patient is sent to one specially skilled in the care of the condition from which he is thought to be suffering, and for any reason it is impracticable for the physician in charge of the case to accompany the patient, the physician in charge should send to the consultant by mail, or in the care of the patient under seal, a history of the case, together with the physician's opinion and an outline of the treatment, or so much of this as may possibly be of service to the consultant; and as soon as possible after the case has been seen and studied, the consultant should address the physician in charge and advise him of the results of the consultant's investigation of the case. Both these opinions are confidential and must be so regarded by the consultant and by the physician in charge.

#### **Discussions in Consultation**

Sec. 5. After the physicians called in consultation have completed their investigations of the case they should meet by themselves to discuss conditions and determine the course to be followed in the treatment of the patient. No statement or discussion of the case should take place before the patient or friends, except in the presence of all the physicians attending, or by their common consent; and no opinions or prognostications should be delivered as a result of the deliberations of the consultants, which have not been concurred in by the consultants at their conference.

#### **Attending Physician Responsible**

Sec. 6. The physician in attendance is in charge of the case and is responsible for the treatment of the patient. Consequently, he may prescribe for the patient at any time and is privileged to vary the mode of treatment outlined and agreed on at a consultation whenever, in his opinion, such a change is warranted. However, at the next consultation, he should state his reasons for departing from the course decided on at the previous conference. When an emergency occurs during the absence of the attending physician, a consultant may provide for the emergency and the subsequent care of the patient until the arrival of the physician in charge, but should do no more

than this without the consent of the physician in charge.

#### **Conflict of Opinion**

Sec. 7. Should the attending physician and the consultant find it impossible to agree in their view of a case another consultant should be called to the conference or the first consultant should withdraw. However, since the consultant was employed by the patient in order that his opinion might be obtained, he should be permitted to state the result of his study of the case to the patient, or his next friend in the presence of the physician in charge.

#### **Consultant and Attendant**

Sec. 8. When a physician has attended a case as a consultant, he should not become the attendant of the patient during that illness except with the consent of the physician who was in charge at the time of the consultation.

#### **Article IV.—Duties of Physicians in Cases of Interference**

##### **Criticism to Be Avoided**

Section 1. The physician, in his intercourse with a patient under the care of another physician, should observe the strictest caution and reserve; should give no disingenuous hints relative to the nature and treatment of the patient's disorder; nor should the course of conduct of the physician, directly or indirectly, tend to diminish the trust reposed in the attending physician. In embarrassing situations, or wherever there may seem to be a possibility of misunderstanding with a colleague, the physician should always seek a personal interview with his fellow.

##### **Social Calls on Patient of Another Physician**

Sec. 2. A physician should avoid making social calls on those who are under the professional care of other physicians without the knowledge and consent of the attendant. Should such a friendly visit be made, there should be no inquiry relative to the nature of the disease or comment upon the treatment of the case, but the conversation should be on subjects other than the physical condition of the patient.

##### **Services to Patient of Another Physician**

Sec. 3. A physician should never take charge of or prescribe for a patient who is under the care of another physician, except in an emergency, until after the other physician has relinquished the case or has been properly dismissed.

##### **Criticism to Be Avoided**

Sec. 4. When a physician does succeed another physician in the charge of a case, he should not make comments on or insinuations regarding the practice of the one who preceded him. Such comments or insinuations tend to lower the esteem of the patient for the medical profession and so react against the critic.

##### **Emergency Cases**

Sec. 5. When a physician is called in an emergency and finds that he has been sent for because the family attendant is not at hand, or when a physician is asked to see another physician's patient because of an aggravation of the disease, he should provide only for the patient's immediate need and should withdraw from the case on the arrival of the family physician after he has reported the condition found and the treatment administered.

#### **When Several Physicians Are Summoned**

Sec. 6. When several physicians have been summoned in a case of sudden illness or of accident, the first to arrive should be considered the physician in charge. However, as soon as the exigencies of the case permit, or on the arrival of the acknowledged family attendant or the physician the patient desires to serve him, the first physician should withdraw in favor of the chosen attendant; should the patient or his family wish some one other than the physician known to be the family physician to take charge of the case the patient should advise the family physician of his desire. When, because of sudden illness or accident; a patient is taken to a hospital, the patient should be returned to the care of his known family physician as soon as the condition of the patient and the circumstances of the case warrant this transfer.

#### **A Colleague's Patient**

Sec. 7. When a physician is requested by a colleague to care for a patient during his temporary absence, or when, because of an emergency, he is asked to see a patient of a colleague, the physician should treat the patient in the same manner and with the same delicacy as he would have one of his own patients cared for under similar circumstances. The patient should be returned to the care of the attending physician as soon as possible.

#### **Relinquishing Patient to Regular Attendant**

Sec. 8. When a physician is called to the patient of another physician during the enforced absence of that physician, the patient should be relinquished on the return of the latter.

#### **Substituting in Obstetric Work**

Sec. 9. When a physician attends a woman in labor in the absence of another who has been engaged to attend, such physician should resign the patient to the one first engaged, upon his arrival; the physician is entitled to compensation for the professional services he may have rendered.

#### **Article V.—Differences Between Physicians Arbitration**

Section 1. Whenever there arises between physicians a grave difference of opinion which cannot be promptly adjusted, the dispute should be referred for arbitration to a committee of impartial physicians, preferably the Board of Censors of a component county society of the American Medical Association.

#### **Article VI.—Compensation**

##### **Limits of Gratuitous Service**

Section 1. The poverty of a patient and the mutual professional obligation of physicians should command the gratuitous services of a physician. But endowed institutions and organizations for mutual benefit, or for accident, sickness and life insurance, or for analogous purposes, have no claim upon physicians for unremunerated services.

##### **Contract Practice**

Sec. 2. It is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate service to his patient or which interfere with reasonable competition among the physicians of a community. To do this is detrimental to the public and to the individual physician, and lowers the dignity of the profession.



### Secret Division of Fees Condemned

Sec. 3. It is detrimental to the public good and degrading to the profession, and therefore unprofessional, to give or to receive a commission. It is also unprofessional to divide a fee for medical advice or surgical treatment, unless the patient or his next friend is fully informed as to the terms of the transaction. The patient should be made to realize that a proper fee should be paid the family physician for the service he renders in determining the surgical or medical treatment suited to the condition, and in advising concerning those best qualified to render any special service that may be required by the patient.

## CHAPTER III.—THE DUTIES OF THE PROFESSION TO THE PUBLIC

### Physicians as Citizens

Section 1. Physicians, as good citizens and because their professional training specially qualifies them to render this service, should give advice concerning the public health of the community. They should bear their full part in enforcing its laws and sustaining the institutions that advance the interests of humanity. They should cooperate especially with the proper authorities in the administration of sanitary laws and regulations. They should be ready to counsel the public on subjects relating to sanitary police, public hygiene and legal medicine.

### Public Health

Sec. 2. Physicians, especially those engaged in public health work, should enlighten the public regarding quarantine regulations; on the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions; and concerning measures for the prevention of epidemic and contagious diseases. When an epidemic prevails, a physician must continue his labors for the alleviation of suffering people, without regard to the risk to his own health or life or to financial return. At all times, it is the duty of the physician to notify the properly constituted public health authorities of every case of communicable disease under his care, in accordance with the laws, rules and regulations of the health authorities of the locality in which the patient is.

### Public Warned

Sec. 3. Physicians should warn the public against the devices practiced and the false pretensions made by charlatans which may cause injury to health and loss of life.

### Pharmacists

Sec. 4. By legitimate patronage, physicians should recognize and promote the profession of pharmacy; but any pharmacist, unless he be qualified as a physician, who assumes to prescribe for the sick, should be denied such countenance and support. Moreover, whenever a druggist or pharmacist dispenses deteriorated or adulterated drugs, or substitutes one remedy for another designated in a prescription, he thereby forfeits all claims to the favorable consideration of the public and physicians.

### Conclusion

While the foregoing statements express in a general way the duty of the physician to his patients, to other members of the profession and to the profession at large, as well as of the profes-

sion to the public, it is not to be supposed that they cover the whole field of medical ethics, or that the physician is not under many duties and obligations besides these herein set forth. In a word, it is incumbent on the physician that under all conditions, his bearing toward patients, the public and fellow practitioners should be characterized by a gentlemanly deportment and that he constantly should behave toward others as he desires them to deal with him. Finally, these principles are primarily for the good of the public and their enforcement should be conducted in such a manner as shall deserve and receive the endorsement of the community.

JOHN C. MCCLINTOCK, M.D.

Dr. John Calhoun McClintock was one of the pioneer surgeons of Kansas and contributed largely to the progress of surgery in this state. He was a man of large attainments and wide experience. He had a tenacious memory and could not only quote accurately from text books and Journals but could name the volume and page of the text book or the volume, number and page of the magazine in which appeared some article that impressed him as being of scientific merit; even several years after he had read the article. Clinical pictures of the cases he treated were indelibly fixed in his memory and could be recalled when occasion required.

He was an accurate diagnostician. He had a keen perception and a dependable judgment. He was a skilful operator—an artist with the knife.

He had an exceptionally large experience, but on account of his diffidence could very rarely be induced to appear on the program at a society meeting or to discuss papers presented there. He wrote but few papers for publication, these few were mostly reports of interesting or unusual cases. The records of the work he did were concise and incomplete so that one of the greatest surgical experiences in this state has been lost to the profession in the passing of this truly great man, this rare surgical genius.

## DEATHS

Samuel W. Spitler, Wellington, aged 80, died June 7, of cerebral hemorrhage. He graduated from the Medical College of Ohio, Cincinnati, in 1875.

Sylvester Huff, Mound Valley, aged 78, died June 28, of cerebral hemorrhage. He was licensed to practice in 1901.

John Calhoun McClintock, Topeka, aged 74, died June 27 of pulmonary edema. He graduated from Rush Medical College in 1879 and practiced in Topeka until 1923 when he retired. He was professor of surgery in the Kansas Medical College until its merger with the University of Kansas. He was a member of the Society.

Lewis Lindsay Dyche, Utica, aged 34, died in April of some kidney affection. He graduated from University of Kansas School of Medicine in 1919. He was secretary of Rush-Ness County Society when he died.

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## SOCIETIES

### GOLDEN BELT SOCIETY

The regular quarterly meeting of the Golden Belt Medical Society was held in Tescott, July 11.

The following program was submitted:  
3:15 P.M. Business Session.

3:30 P.M. Diet in Health and Disease—  
Dr. Earl Vermillion, Salina.

4:30 Elephantiasis of the Labia (A Case Report)—Dr. F. R. Croson, Clay Center, Kansas.

5:30 P.M. Fractures in the Aged—Dr. E. D. Ebright, Wichita, Kansas.

### MITCHELL COUNTY SOCIETY

A meeting of the Mitchell County Medical Society was held in Beloit on July 19. Dr. C. C. Stillman, of Morganville, Councillor for the district, and Dr. F. R. Carson of Clay Center were guests of the Society. Dr. Stillman gave a very interesting report of the A.M.A. meeting. He also discussed the purposes and advantages of a well organized county society, and explained the qualifications for eligibility for membership in such a society. Dr. Carson also talked about county society organizations and

his own observations in connection therewith. The guests were taken through the new fifty-bed hospital which is being erected in Beloit and is intended to serve an area of thirty-five miles radius.

Several of the doctors in the vicinity are taking post-graduate work in anticipation of the opening of the hospital. Dr. Hugh Hope of Hunter is taking general work in New York. Dr. Bernard Vallett of Jewell City is taking a course in roentgenology at Washington University, St. Louis. Dr. W. W. Cook of Beloit is taking a course in eye, ear, nose and throat, in New York. Dr. Martha Madtson is taking a course in obstetrics and pediatrics at Washington University.

It is expected that the hospital will be opened by the first of October, but the training school will probably not be open for two years. The hospital and nurses home were made possible through donations from the community and by the assistance of the Commonwealth Fund.

MARTHA MADTSON, Secretary.

### SOLOMON VALLEY SOCIETY

The Solomon Valley Medical Society consisting of the four counties Ottawa, Mitchell, Lincoln and Osborne, met for their quarterly meeting at Minneapolis, Kansas, June 26, 1929.

Officers were elected for the year: Dr. Schwaup of Osborne, president; Dr. Miller, Osborne, vice president; Dr. Weltmer, Beloit, secretary-treasurer.

Two talks were given, one by Dr. Earl Vermillion, Salina, on "Chronic Constipation;" one by Dr. E. D. Ebright, Wichita, on "Fractures in the Aged." Both papers were freely discussed by all members present.

The following active members were present: Drs. Fred Harvey, Carl Vermillion, Miller, Schwaup, Berggren, Newton, Newlon, Drier, Herlie and Schaffer.

Guests present were Drs. Mowery, Britton, Dillingham, Schaffer, Ebright, C. D. Vermillion, Earl Vermillion, J. W. Neptune, H. E. Neptune, Sutton, Henshaw, Hendricks, Webb and Nordstrom.

Salina is always well represented and we are glad to have them. The next meeting is to be at Lincoln, Kansas.

DR. W. W. WELTNER, Secretary.



## FRANKLIN COUNTY SOCIETY

The regular meeting of the Franklin County Medical Society, for the month of July, was held at the Ottawa Country Club, Wednesday the 31st.

Afternoon devoted to some very spirited competition on the links between members of the profession from Shawnee and Miami counties with local "golf hounds" of the home society. Dr. F. A. Carmichael doing the honors for the visitors and Dr. Lerton V. Dawson for the local teams. A score of 43 by Dr. Dawson, made wholly with a mashie and putter, was especially noteworthy.

Special Club supper was served by caterer, Fred Dotson, and enjoyed by above two score of the doctors.

Program of the evening was opened by Dr. Ralph W. Holbrook, president of the Jackson County Medical Society, of Kansas City.

On request of several members and visitors, the Doctor told us of the "House-cleaning" in the ranks of the profession of Kansas City. Some 78 irregulars were parading through the telephone directory and their window signs as "Doctors" who were not, nor ever had been licensed under any recognized board or method of practicing the healing art under any law of the state of Missouri.

President Holbrook made especially clear that the present campaign was directed to the cleaning of our own ranks, that it was no part of the society plan to interfere with regularly licensed chiropractors and osteopaths who were practicing their art under the proper titles of their registration.

The Jackson County Society, with relevant propriety, takes the Biblical injunction, "Cast out the beam from thine own eye, before thou takest note of the mote," etc. In less classical words, "It's a foul bird that fouls its own nest." They have begun a campaign of publicity. They are consistently endeavoring, and quite creditably succeeding in a clean up of the menace of unlicensed doctors in the city.

The most flagrant offender being an irregular school of medicine at 23rd and Holmes which the Society has already

enmeshed in its dragnet, and turned over to the pitiless postal authorities which will, no doubt, issue a fraud order against its method of getting "students."

The work of the Jackson County Society met with hearty approval of the members of the various societies represented at the session of the Franklin County Society.

Dr. Holbrook then took up his subject, "A Day in Gastro Intestinal Practice," and gave a good account of himself much to the interest and instruction of the profession present. Particularly did he stress the need for more and greater care in the examination of patients complaining of irregularities along the much used and abused alimentary tract; quite fearlessly giving careful reports of autopsies that followed his own negligence in times past.

Paper, "Modern Anesthesia," by Dr. Frank Hurwitt, anesthetist to the Research Hospital. The doctor showed the society the newest and most up-to-date apparatus for the work. The speaker particularly emphasized the advantages of ethylene gas, contrasting it most favorably with older anesthetics. Convenience. Greater safety to the patient, etc.

Dr. William A. Shelton, surgeon to the Research, followed with a paper on "Anesthesia from the Surgeon's Angle," justifying, in a large measure, the claims of the preceding speaker.

Dwelling strongly on the advantages of a trained anesthetist, teamed up with the surgeon for the best interests of the patient.

The evening's program was concluded, by Dr. Kinnaman, of The Kansas State Board of Health, who introduced Dr. Herman E. Hasseltine, U. S. Public Health Service, Washington, D. C., who told of the work of the department in its survey of undulating (Malta) fever.

Kansas with 42 and Missouri with 29 cases distributed around so as to make Ottawa the center of the affected area.

*Bacillus Abortus Millitensis*. Three strains, bovine, caprine and porcine. The bovine being the most often isolated. Agglutination test necessary to diagnose. *Bacillus* not always found at first, sec-

ond or third test; often requiring repeated blood samples.

Most prevalent in the rural communities. Slow lingering malady, 2 per cent fatalities, but very detrimental to economic conditions.

Pasteurization of milk recommended to prevent spread. Los Angeles, where there is a large number of cases has raw milk, while San Francisco, where there are practically no cases, in the face of the fact that the bacillus has been demonstrated in many of the dairy herds, has an ordinance permitting the local health authorities to compel all vendors of milk to pasteurize their supply.

No known treatment yet worked out. Some experimenters believe that a vaccine or serum has been useful in their hands. Departments not yet concurring. Dr. Hasseltine gave a very interesting talk that will lead, no doubt, to more careful observation of patients with uncertain symptoms, including fever, chill, inability of patient to do a whole day's work, general malaise, loss of weight; long continued, alternating with periods of a feeling of general well being, and repeated exacerbations of undulating illness.

Among the out of town guests were members of the Douglas, Coffey, Anderson, Allen, Neosho, Miami, Wyandotte and Jackson County, Missouri Societies.

GEO W. DAVIS, M.D., Secretary.

#### BROWN COUNTY SOCIETY

The Brown County Medical Society has not sought space in "The Journal" for a long time. Undoubtedly the society has been recreant in this duty, for what was "just another county society" has come to life and is doing valuable work. That much is still unaccomplished testifies that we are continuing our endeavors, striving for greater accomplishments. However, with the invaluable aid of the Ladies' Auxiliary, a strong social program has succeeded in bringing closer together than ever before the members of the society. We seem to be well past the age of "competitors" and are regarding each other as confreres. There is real cordiality in our greetings—and our wives, who compose the Auxiliary, have

come to know and like each other. You know what this means in promoting an entente cordiale.

We have held several open meetings on subjects interesting to the laity with imported speakers. We have organized an effective "deadbeat" list and a fee list which is rarely, if ever, violated. We are working on other protective measures for the benefit of the profession. We have a full time health office, due in part, at least, to the activity of the society. Four of our most active members are from Nemaha County, whose society is in the doldrums.

In July we have our annual picnic, to which we invite our friends. There is always an attendance of fifty or six and strangers marvel at our camaraderie.

Before political and civic programs can be carried out doctors must learn to pull together; and the first step in pulling together is *knowing* each other—not *suspecting* each other. Our social program has accomplished knowing each other and we are now pulling together.

We meet on the last Friday of each month, the ladies at the home of a member; the men at a member's office. After the transaction of business and a scientific program, the men adjourn to join the ladies where delightful refreshments await. After that, bridge or rummy or what you like entertains us until, usually, a late hour.

At our 1929 picnic, just past, a St. Joseph, Missouri, surgeon said, "Whenever I ask a Brown County doctor about a fellow physician he always replies, 'He's a fine chap and a darn good doctor'." If we haven't accomplished anything else, isn't that worth while?

W. G. EMERY, M.D.

#### RUSH-NESS COUNTIES SOCIETY

The Rush-Ness Counties Medical Society met at the office of Dr. Singleton in McCracken, June 6th. There were present—Drs. Grisell, Latimer, N. W. Robinson, Roy Russell, J. E. Attwood, F. D. Smith, W. J. Singleton.

The following officers were elected: Roy Russell, Ness City, President; N. W. Robinson, Vice President; W. J. Singleton, McCracken, Secretary and Treas-



urer.

The next meeting will be held in Dr. Robinson's office in Bison the second Thursday in August.

W. J. SINGLETON, Secretary.

#### DICKINSON COUNTY SOCIETY

The Dickinson County Medical Society met at the Hotel Potter at Hope, Kansas, June 13. The meeting was in honor of Dr. Ketchersid who has been in the practice of medicine for 56 years. Dr. A. L. Blesh of Oklahoma City, who began the study of medicine by "reading medicine" in Dr. Ketchersid's office, was present and read a paper on "Surgery of the Reticulo-endothelial System."

All the doctors present were given an opportunity to speak on some early experience with Dr. Ketchersid. All the speakers told of incidents showing the unselfishness, kindness, medical and surgical accomplishments much above the average. Of particular interest were the reports of some of the older doctors who remembered seeing Dr. Ketchersid doing resections of gangrenous intestines in the early days with successful results.

Dr. Ketchersid is in his 79th year and is still active in the practice of medicine. He was presented by those present with a handsome rocking chair.

DANIEL PETERSON, M.D., Secretary.

#### ANDERSON COUNTY SOCIETY

The Anderson County Medical Society held a meeting Wednesday evening, June 12, 1929, at the Santa Fe Lake and Club House, six miles north of Garnett. They invited the members of the Franklin, Miami and Douglas County Societies, and there were fifty people present.

The Anderson County Medical Society gave a chicken dinner, followed by a program. Dr. W. K. Johnson, president of the Anderson County Medical Society, presided at the meeting and gave a short address on "fellowship." He introduced Dr. Earle G. Brown, Secretary of the State Board of Health at Topeka. Dr. Brown gave a very interesting address on "undulating fever," which brought out some discussion among the members.

Senator Fred M. Harris, of Ottawa, gave a talk on some features of legisla-

tion by the Legislature of 1929. This talk was very interesting and he brought out the fact that there must be some demand for legislation by the public before the legislature will take up any legislation and give it active support.

Very truly,

J. A. MILLIGAN, Secretary.

#### Goiter Association Offers Prize

A prize of three hundred dollars and a medal of honor will be awarded by the American Association for the Study of Goiter to the author of the best essay based upon original research work on any phase of goiter, presented at their annual meeting at Seattle, Washington, in September, 1930.

Competing manuscripts must be in the hands of the corresponding secretary by July 4, 1930, so that the award committee will have sufficient time to thoroughly examine all data before making the award.

Full particulars of other regulations governing details of the offer will be furnished on application.

The American Association for the Study of Goiter hopes this offer will stimulate valuable research work on the many phases of goiter, especially on its basic cause.

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#### First International Congress On Mental Hygiene

Progress is being made in the organization of The First International Congress on Mental Hygiene, to be held in Washington, D. C., May 5-10, 1930. Educators, psychiatrists, other physicians, public officials, social workers, industrialists and many others from all over the world are expected to be present when the Congress convenes.

Herbert C. Hoover has honored the Congress by accepting the position of honorary president. Already twenty-six countries are represented on the Committee on Organization, of which Dr. Arthur H. Ruggles, of Providence, R. I., is chairman. Dr. William A. White, of Washington, D. C., is president of the Congress, and Clifford W. Beers is secretary-general. The Congress is being sponsored by mental hygiene and related

organizations in many countries.

Questions to be discussed at the Congress will include the relations of mental hygiene to law, to hospitals, to education, industry, social work, delinquency, parenthood and community problems. A world-wide view of mental hygiene progress will be given. The subject will be discussed also in specific application to the maladjustment problems of individuals, special attention being probably given to childhood, adolescence and later youth. It is the contention of those promoting the Congress that mental hygiene has to do with the conservation of mental health in general, not merely with nervous and mental diseases. The point of view of clinical diagnosis and treatment will be considered, as well as that of administration of institutions and agencies.

Basic expenses of the Congress are being underwritten by the recently organized American Foundation for Mental Hygiene. Opportunity will be afforded for acquaintance among delegates of the various countries, and translations, together with other conveniences, will facilitate comprehension of all that may be said in unfamiliar languages. Administrative headquarters have been opened at 370 Seventh avenue, New York City, where John R. Shillady, Administrative Secretary, is in charge. A membership fee of \$5 (including the proceedings) has been fixed.

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#### **Radiologic Society of North America**

"The next meeting of the Radiological Society of North America will be held at Toronto, December 2nd to 6th, inclusive. Headquarters at the Royal York Hotel. The facilities and accommodations at this hotel are the best in the history of the Society and we expect to have a banner meeting in every way. The Scientific Program, Clinics, Scientific and Commercial Exhibits will be of the highest character and exceedingly interesting and instructive. The program will be interesting not only to the radiologists but to the physicians practicing other medical specialties and general practice as well. A cordial invitation is extended to all physicians as well as radiologists to

attend the Toronto meeting. Secure reservations at once through Dr. W. C. Kruger or Dr. G. R. Reid, 20 College street, Toronto, Canada. Excellent arrangements have been made to take care of the visiting ladies."

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#### **Clinical Congress and Annual Meeting of the American College of Physical Therapy**

Chicago has again been selected as the annual meeting place for the clinical congress of physical therapy of the American College of Physical Therapy. The consensus of opinion of the many representatives who have attended the sessions in the past few years, is that Chicago offers the most attractive features for a large medical gathering. Convention facilities are unsurpassed. Chicago as a medical center needs no apology. The experience of those who have attended any of the previous conventions speaks well for a highly successful 1929 Clinical Congress.

One of the novel features to be inaugurated this year is the clinical part of the program. One-half of each day will be devoted to a variety of clinics in the sections on Medicine, Surgery and allied specialties, and Eye, Ear, Nose and Throat. As in the past, there will also be a joint meeting of all sections for the presentation of numerous addresses of interest to all physicians irrespective of their specialties. Education in physical therapy will be thoroughly stressed, as the time has come when this phase of the subject must be given due emphasis by an organization such as the American College of Physical Therapy. Scientific papers, clinical addresses, demonstrations of technique, and scientific and technical exhibits, will comprise the remainder of a scientific program which merits the attention of all those interested in the newer fields of medicine. Attendance at the congress is not limited to the fellows of the college, as all duly licensed physicians, their technicians and assistants, properly sponsored, are cordially invited to attend all the sessions. The session will be held at Hotel Sherman, November 4, 5, 6 and 7, 1929.

Program and other information may be obtained by writing to the Executive



Offices, American College of Physical Therapy, Suite 716-30 N. Michigan avenue, Chicago, Illinois.

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**BOOKS**

The Surgical Clinics of North America. (Issued serially, one number every other month.) Volume 9, number 3. (New York Number—June, 1929) 299 pages with 125 illustrations. Per Clinic year (February, 1929, to December, 1929.) Paper \$12.00; cloth, \$16.00. Philadelphia and London: W. B. Saunders Company.

In the clinic of Heyd a case of Riedel's struma, benign granuloma of the thyroid, is shown; a two-stage operation for diverticula of esophagus; also a disarticulation at shoulder for osteogenic sarcoma. Martin reports a case of pseudohermaphroditism. Lilienthal presents a case of bronchial fistula following pulmonary abscess; a case of primary carcinoma of lungs; and an avulsion of left phrenic nerve for tuberculosis. Chetwood discusses the importance of technic in renal diagnosis. Coley's clinic deals particularly with sarcoma of the long bones. Albee's clinic shows the use of the bone graft in ununited fracture of the femur. Gratz shows several interesting bone cases. Meyer shows a case of cancer within the buccal cavity. There are also clinics by Farr, Dudley, Yeomans, Colp, Kaufman, Bolling, Ramirez, Eggers, Lewisohn, Neer and Pickhardt.

The Medical Clinics of North America. (Issued serially, one number every other month.) Volume 13, No. 1. (Boston Number, July, 1929) Octavo of 280 pages with 36 illustrations. Per Clinic year, July, 1929, to May, 1930. Paper, \$12.00; cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, March, 1929.

Ullian's clinic deals with subacute bacterial endocarditis. Barron discusses thrombo-angiitis obliterans. Irving talks about the treatment of eclampsia. Sprague discusses the effect of potassium sulphocyanate in hyper-tension with report of cases. Blumgart and McMahon present a case of bronchiolitis fibrosa obliterans. Minot reports a non-fatal case simulating acute leukemia. Joslin, Root, White, Curtis and Adams present an elaborate report on diabetic coma. Morse presents some of the causes of difficult, noisy, and rapid respiration in infancy and early childhood. Robey dis-

cusses aneurysm of the thoracic aorta. Weiss shows some cases of cerebral hemiplegia in arterial hypertension. The reports in this volume cover a wide field and only a few of the subjects presented have been mentioned.

The Neuroses. By Israel S. Wechsler, M. D., Associate Professor of Clinical Neurology, Columbia University, New York City. Octavo of 330 pages. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$4.00 net.

This book is intended for medical students and practitioners. The views expressed are based on clinical experience derived from actual contact with patients and a study of normal and abnormal psychology. The author has adopted the psychologic approach to the neuroses because he believes that at this time psychopathology offers the best understanding of the neuroses. In his introduction he gives an extensive history of psychiatry.

International Clinics, a quarterly of illustrated clinical lectures and especially prepared original articles. Edited by Henry W. Cattell, M.D., with the collaboration of numerous others. Volume II, Thirty-ninth series, 1929. Published by J. B. Lippincott Company, Philadelphia.

In this volume appears an article by Weber of London dealing with the importance of congenital and developmental aneurysms in sudden intracranial hemorrhage. Gordon of Montreal presents a very interesting paper on the treatment of pneumonia. Gordon describes some reflexes and their diagnostic importance. Murphy has a paper on chronic nephritis. Forman discusses the renal factor in evaluating the patient with chronic gastro-intestinal symptoms. Harlow Brooks has an article on periodic physical examinations. Foster and Deitch have a paper on prostatic involvement in the very aged. Baehr and Klemperer have a paper on degenerative disease of the liver. Boyer described the roentgenographic visualization of the coronary arteries. There are several other very interesting articles in this volume.

The Physiology of Love by George M. Katsinos, Ph. D., M.D. Price \$4.00. 176 Huntington Ave., Boston, Mass.

As this title would suggest, in this day and age, the text of this book deals very

largely with sex, sexual relations, sexual perversions, etc. The author was educated in Greece and seems to think that in that country one of the more common forms of perversion had its origin. His analysis of the factors that govern the sexual affairs of the human race is interesting if not always convincing. Not every one will accept his conclusions. For instance he says: "It is sad to relate, but perfectly true, withal, that the hymn of victory which will celebrate the escape of humanity from the power of these two diseases (gonorrhoea and syphilis) will, at the same time, sound the funeral knell of married life."

#### **Aqueous Extract of Liver**

William B. Porter, J. Powell Williams, J. C. Forbes and Hazelwood Irving, Richmond, Va. (J.A.M.A., July 20, 1929), have been able to produce an aqueous extract of liver which is potent and remains constant when subjected to those conditions common to therapeutic material in ordinary usage. Forty-five patients having pernicious anemia have been studied to determine the effect of liver extract E. 29. The average erythrocyte increase for a period of twenty-eight days in anemia of 1.5 million per cubic millimeter or less when 90 cc. a day was used was 1.98 million per cubic millimeter. The average increase was 1.64 million per cubic millimeter with the administration of 45 cc. a day. The authors feel that patients with similar degrees of anemia require varying amounts of the effective material found in liver, and the maintenance dose must be regulated in keeping with the individual requirement.

#### **Polyarthritis**

The results observed by Leonard G. Rowntree and Alfred W. Adson, Rochester, Minn. (J.A.M.A., July 20, 1929), in one case following sympathetic ganglionectomy and ramisection reveal the fact that in certain types of arthritis the sympathetic nervous system of the extremities is hyperactive, producing a marked vasomotor disturbance and profuse sweating, and possibly contributing to the spasm and atrophy of the muscles

with the resultant deformities. The clinical picture is characterized by coldness of the extremities, marked sweating, tender, painful and swollen joints, and trophic changes in the muscles, skin and nails. In the case cited, all of these abnormal manifestations disappeared on release of the extremities from sympathetic control. The relief in the lower extremities was complete, lasting over a period of almost three years. Similar results were obtained in both hands following cervicothoracic sympathetic ganglionectomy, but there are still some slight residual manifestations of arthritis, slight pain and limitation of motion in both wrists. To date the results, both objective and subjective, have been astounding in this case. In the types of arthritis associated with marked bony changes, sympathetic ganglionectomy may be of little if any value; but in view of the obvious ignorance of the role of the sympathetic nerves in arthritis, the authors feel that its potentialities, even in this field, should be determined. In determining the value and limitations of sympathetic ganglionectomy in arthritis, the intelligent selection of cases obviously is of paramount importance.

#### **Accidents With Local Anesthetics**

The investigation of accidents following the use of local anesthetics instituted by the Therapeutic Research Committee of the Council on Pharmacy and Chemistry of the American Medical Association has had many practical results. The reports were published in 1920 and 1924; now, André Klotz of the Strasbourg Hospital has published the results of an extensive study of the literature on this subject. He agrees with the American committee that accidents are due mainly to overdosage, to injections of cocaine, to the use of solutions of too high concentration, to excessive doses of epinephrine, and a smaller number of peculiar conditions of the patient that are beyond evaluation by the physician. The investigations of the American committees and of Klotz have thrown much light on the causes of avoidable accidents with local anesthetics, but it is obvious that many surgeons continue to disregard the



warnings that have been published. The report of Klotz emphasizes the importance that physicians should continue to co-operate with the Permanent Committee for the Study of Toxic Effects of Local Anesthetics of the Therapeutic Research Committee. (J.A.M.A., May 18, '29.)

—R—

### **Prescription of Remedies in Accordance With Ethics**

The Principles of Medical Ethics of the American Medical Association contains the following with regard to the prescribing of medicines: ". . . it is . . . unethical to prescribe or dispense secret medicines or other secret remedial agents, or manufacture or promote their use in any way." It contains no provision holding it unethical to prescribe proprietary medicinal preparations of declared known composition. If physicians will limit their prescribing to the medicinal products included in the United States Pharmacopeia, the National Formulary, and New and Nonofficial Remedies, they may be confident that they are not prescribing secret remedies; they should be mindful, however, that the National Formulary contains many drugs and drug mixtures that are practically worthless, and that preparations in New and Nonofficial Remedies are new, and, though worthy of trial, are in some instances still more or less in the experimental stage. For a guide to prescribing, the Epitome of the U. S. Pharmacopeia and National Formulary, and New and Nonofficial Remedies are to be recommended. (J.A.M.A., May 18, '29.)

—R—

### **Poisoning from Methyl Chloride Used in Domestic Refrigerators**

At the annual session of the American Medical Association held in Portland early this month the House of Delegates, recognizing the dangers of toxic gases used in industry and in the home, asked the Board of Trustees to appoint a committee to look into the situation and to advise the medical profession and the public for the good of the public health. A committee of men who have given special consideration to the subject has now

been appointed and reports will no doubt soon be forthcoming as to the dangers involved and as to the needs of research in order to establish information not now available. The committee appointed by the Board of Trustees includes Dr. H. Gideon Wells, professor of pathology in the University of Chicago; Dr. R. L. Thompson of the United States Public Health Service; Dr. Carey P. McCord, associate professor of preventive medicine in the University of Cincinnati College of Medicine; Yandell Henderson, Ph.D., professor of physiology in Yale University School of Medicine, and Paul N. Leech, Ph.D., director of the chemical laboratory, American Medical Association. In the meantime additional deaths from the use of methyl chloride in mechanical refrigeration have occurred in Chicago as determined by a special coroner's jury, which has recommended the discontinuance of the use of methyl chloride as rapidly as possible, the temporary use of warning gases with methyl chloride until substitution of some less hazardous gas shall be made, and a definite warning by manufacturers to users of such apparatus as to the hazard's involved. In order that users of mechanical refrigeration may have information. The Journal publishes under general news in this issue a list of various trade names of mechanical refrigerators with the type of refrigerant used in each instance so far as is now known.—J.A.M.A., July 27, 1929.

—R—

### **Stability of Digitalis and its Preparations**

Six specimens of powdered digitalis have been examined by Harvey B. Haag and Robert A. Hatcher, New York (J.A.M.A., July 6, 1929), in the laboratory after intervals varying from one to sixteen years, and in no case has deterioration been detected, and no one in the laboratory has ever observed anything indicative of deterioration in one of the many specimens of powdered digitalis used. Powdered digitalis, in tablets or in capsules, is admirably suited for securing uniformity of dosage where individual patients, clinics or groups of clinics are provided with sufficient to last one year or more. A sterile infusion of

digitalis undergoes little change within several months, and deterioration then results solely in diminished activity, not in increased toxicity. The official tincture of digitalis retains its activity with comparatively little change during several years, and any change that does occur merely calls for a corresponding increase in dosage. The secret of deterioration of liquid preparations of digitalis has not been explained fully, and there is no evidence that any of these preparations are as stable as powdered digitalis kept with ordinary care in a corked glass bottle. Aqueous solutions of strophanthin, ouabain or other digitalis principles, kept in ampules of soft glass, deteriorate rapidly. Ouabain solution in ampules of hard glass decomposes slowly. Their investigation lends no support to the contention that any of the digitalis specialties are more stable than the official digitalis tincture. All liquid preparation of digitalis should bear the date of manufacture.

### **Narcolepsy Following Epidemic Encephalitis**

Gordon R. Kamman, St. Paul (J.A. M.A., July 6, 1929), reports a case of true symptomatic narcolepsy following an attack of acute epidemic encephalitis in which all forms of treatment have failed. The patient had an attack of "influenza" lasting for about five weeks, during which time she had headache and some fever, and was unusually drowsy during the day but could not sleep at night. She recovered from the acute attack—which in all probability was acute epidemic encephalitis—but since then has been troubled with diurnal attacks of involuntary sleep. The patient complained of muscular stiffness, tremor of the hands, almost constant headache, extreme irritability, restlessness and insomnia. Neurologic examination revealed a moderate hypertonus of all the muscles, the right pupil slightly larger than the left, slight weakness of the right facial nerve, a fine tremor of both extended hands, some dysmetria of the right arm, and exaggeration of all deep tendon reflexes. Blood pressure, urinalysis and blood studies gave normal ob-

servations. The blood Wassermann reaction was negative. The patient has had about every conceivable form of treatment without avail. Diet, internal glandular therapy, sodium salicylate, belladonna, stramonium, acriflavine and various sedatives all have failed to give relief.

He: "You simply must marry me, darling."

She: "But have you seen father or mother?"  
"Often, darling; but I love you just the same."

✱ ✱ ✱

Office Boy: "May I get off this afternoon, sir, about 2:30?"

Personnel Officer: "Whose funeral is it to be this time, James?"

Office Boy: "Well, to be honest, the way the morning papers have it doped out it looks like it's going to be the home team's again."

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### Ketogenic Diet in the Treatment of Chronic Convulsive States

WILLIAM C. MENNINGER, M.D., Topeka

Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

Idiopathic or essential epilepsy is a symptom complex. It represents a state of chronic irritability of the nervous system, characterized by periodic recurring convulsive seizures in an individual who often shows an original personality defect and usually develops marked mental changes, all of which occur without demonstrable organic pathology. In our ignorance of the etiology, which undoubtedly often varies, this symptom complex has (probably incorrectly) come to be regarded as a disease entity.

Convulsive states occur in many conditions and their relation to, or their differences from, so-called idiopathic epilepsy is often speculative. Many of these, however, occur with some definite pathology towards which a specific therapeutic endeavor can be levied. Thus while the relation is far from clear, the "teething" infant, the febrile child, the metabolic disturbance, the insulin reaction, the many types of brain pathology (encephalitis, neurosyphilis, tumor) are all the targets of specific treatment for their convulsive state. On the other hand, when all such cases are eliminated, there still remains a great group of chronically convulsive states in which our diagnosis is a matter of exclusion.

It is useless to rehash the great multitude of theories—chemical, organic, functional and psychogenic—that have been suggested as the cause of the epileptic syndrome. Very probably various factors are responsible, and two cases very similar clinically may be very dissimilar in their pathogenesis. Also it suffices to say that no consistent pathologic lesion has been demonstrated in epilepsy.

The treatment of these idiopathic con-

vulsive states has consisted of hygienic measures supplemented by anticonvulsive drugs. Bromides have been almost completely replaced by phenobarbital and its sodium salt, which is remarkably effective with rare untoward effects when used with caution.

Special attention to diet as a therapeutic agent in various conditions is a relatively recent innovation. For years the diet has received general hygienic consideration in disease, but even at present this very important factor is given little specific attention except in a few metabolic disturbances, viz., diabetes, hypertension, vitamin deficient diseases, anemia, etc. And in most of these, it is used only as a supplemental treatment.

The use of a special diet as the specific treatment of disease is limited to a very small field, probably because of our failure to investigate its further possibilities. Undoubtedly this whole field of therapeutic endeavor has been inadequately appreciated and consequently neglected.

In epilepsy, the ketosis diet has been developed and is being used with success. The diet is regarded as the therapeutic agent which through the body metabolic chemical processes acting on the dietary constituents produces the beneficial results. It is not regarded merely as a desirable hygienic addition to other therapeutics.

Returning to the therapeutics of these epileptic states, the dietary treatment has relatively recently (Guelpa and Marie, 1910) received special emphasis. In 1921, Geyelin noted that in starvation many patients were free from seizures as long as the fast was continued. He suggested that the beneficial effect might be due to the acidosis which is present during fasting. Wilder, on the basis of Geyelin's results, suggested that a diet

of low carbohydrate and high fat might be an effective treatment for epilepsy. Peterman published the first experiences with such a diet in 1924 after two years of clinical trial and has subsequently elaborated and detailed further results.

The mechanism of the action was originally attributed to the acidosis, although Peterman states that acidosis alone or ketosis alone do not control the convulsions. In any event, the beneficial effect is not due to the correction of any underlying abnormality of acid-base equilibrium. Lennox still subscribes to acidosis as the effective agent, although Peterman and Talbot and his workers regard the ketone formation as the essential mechanism.

To date several reports have been published (McQuarrie, et al, Helmholtz, Talbot, Peterman, Luther and Barborka). There is little dissension as to the beneficial results obtained: approximately 30 per cent of cases are symptomatically cured and in an additional 20 per cent there is a reduction of seizures. Where a high selectivity of cases has been made, even a much larger percentage of cases have been benefited. Thus Peterman reports having treated twenty patients with the ketogenic diet who are now back on normal diets, remaining free from convulsions.

These reports deal chiefly, however, with children, and as has been stated, were usually selected cases. Lennox states that in his experience, patients with traumatic epilepsy may be helped by this diet. Barborka reported the results in 32 adult patients with idiopathic epilepsy, in which 7 were controlled and 12 improved. Thirteen patients were not definitely benefited, although many of them were not maintained in a state of ketosis. He does not state how many were maintained in ketosis that were not helped.

Certain points are essential in the selection of the cases. As has been mentioned, most writers have selected only cases of idiopathic epilepsy. The present report includes also several types of chronic convulsive states. The patient, or a responsible relative, must have sufficient intelligence to carry out the

weighing and calculation of the diets. He must be willing to co-operate to the fullest extent and have facilities to obtain the diet. Every patient must agree to spend ten days or longer in the hospital until the ketosis is established and particularly until he learns the method of maintaining and adjusting the ketogenic diet.

#### CLINICAL RESULTS

The present report includes twelve cases of convulsive syndromes, four of a definitely organic nature and eight without a demonstrable organic basis, viz., so-called essential or idiopathic epilepsy. The series includes three adults, five patients between the ages of 10 and 20, and the remaining four under 10.

Of the organic group, one case was not benefited, in two the number of convulsions was decreased, and in one they were entirely checked. The case which did not benefit was, on first trial of the Ketosis regime, very much helped—the number of convulsions being much reduced. The mother, however, became careless in the preparation of the diet, became disappointed with the increase in convulsions, and stopped making any dietary effort. On a subsequent trial with the diet, there was no apparent change in the number of the attacks over a period of eight weeks. However, when the patient left the hospital and was suddenly taken off of the diet, the convulsions became very much more frequent and severe without other apparent cause or change. The one patient mentioned above in which the convulsions were checked was found to have congenital syphilis and in addition to the diet has received regular administration of tryparsamide.

In the group of eight "idiopathic" epilepsy cases, four were made free from convulsions and have remained so, two were improved and two were unimproved. One of these failures can properly be blamed to inadequate co-operation on the part of the patient.

#### CALCULATION OF KETOGENIC DIET

The practical and desired is the institution of a ketosis and its accentuation or reduction. Almost every report to date uses some slight variation in the method



of calculating the diet. Certain fundamental agreements are essential: the ratio of the fat to carbohydrate and protein begins about 1.5 to 1 and is increased as necessary to produce sufficient ketosis. An allowance of one gram of protein for each kilogram of body weight has been found sufficient to maintain nitrogen equilibrium and to allow a small quota for growth. The caloric requirements are estimated from the Benedict and Talbot basal requirement at various ages plus 10 to 50 per cent depending on the activity of the particular case. The basal requirements as given by Benedict and Talbot for boys are as follows:

<i>Body weight</i>	<i>Calories per kilo</i>
5 kilos	54
10 kilos	54
15 kilos	48
20 kilos	43
25 kilos	39
30 kilos	37
35 kilos	35

Girls require slightly under this number of calories after 10 kilos. For adults a basal requirement at rest is safely covered by 30 calories per kilo body weight, increased of course proportionately with increase in activity.

The writer uses a simple formula based on the ratio of grams of fat to grams of carbohydrate. Protein is figured at one gram per kilogram of body weight. The initial diet is one with a fat-carbohydrate ration of 3 to 1. This is increased as necessary to 4 to 1, 5 to 1, and one even as high as 10 to 1, depending on the ketosis as determined by the urine tests for diacetic acid and acetone. A sample calculation is given:

Patient, a child, weight 25 kilograms, moderate activity:

1. Total caloric requirement=25 (kilo weight)  $\times$  40 (basal caloric requirement per kilo body weight)=1000+30% (additional for activity requirement)=1300 calories.

2. Protein=25 grams (1 gram per each kilogram body weight) which equals 100 calories derived from this amount of protein (4 calories per gram).

3. 1300 (total caloric requirement)—100 (calories derived from protein)=

1200 calories to be derived from fat and carbohydrate in a ratio of 3 grams fat to 1 gram carbohydrate.

4. The proportion thus:

$$X:1200::4:31$$

X (calories of carbohydrate required): 1200 (Calories of carbohydrate and fat required)::4 (calories from 1 gram of carbohydrate):31 (Calories from 3 grams of fat plus 1 gram carbohydrate).

X=155.0 calories of carbohydrate required.

5. Grams of carbohydrate=155.0 $\div$ 4 (calories per gram of carbohydrate)=38.7.

6. Grams of fat=3 $\times$ carbohydrate (since ratio was 3 to 1) equals 3 $\times$ 38.7=116.1 grams of fat.

7. Thus total caloric requirement equals 1300 made up of carbohydrate 38.7 grams, protein 25 grams, fat 116.1 grams.

As a rule it is necessary to increase the ratio between the fat and carbohydrate and on the following day after the institution of the above diet it is increased to 4 to 1. The ratio in step No. 4 then reads: 4:40::X:1200. When it is increased to a 5 to 1 ratio, it will read: 4:49::X:1200, etc.

Patient, an adult, weight 70 kilograms, slight activity (in bed) beginning with a carbohydrate-fat ratio of 1 to 3:

1. Total caloric requirement=70 (kilo weight) $\times$ 30 (caloric requirement per kilo body weight for adult in bed)=2100 calories.

2. Protein=70 grams (1 gram for each kilogram body weight) which equals 280 calories to be derived from protein (4 calories per gram).

3. 2100 (total caloric requirement)—280 (calories derived from protein)=1820 calories to be derived from fat and carbohydrate in a ratio of 3 grams fat to 1 gram carbohydrate.

4. The proportion thus:

$$X:1820::4:31$$

X (Equals calories of carbohydrate required): 1820 (calories of carbohydrate and fat together)::4 (calories from 1 gram carbohydrate): 31 (calories from 1 gram carbohydrate and 3 grams fat).

$$X=235 \text{ calories.}$$

5. Grams of carbohydrate=235 $\div$ 4

(calories per gram of carbohydrate)=58.7.

6. Grams of fat= $3 \times$  carbohydrate (ratio of 3 to 1)= $3 \times 58.7 = 176.1$  grams of fat.

7. Thus total caloric requirement equals 2100 made up of carbohydrate 58.7 grams, protein 70 grams, fat 176.1 grams.

Certain difficulties are encountered in this treatment which are concerned with the instruction of the patient.

1. Failure on the part of the patient to rigidly adhere to the diet as prescribed. This is chiefly due to the fact that the patient does not appreciate the importance of small infringements.

2. Failure to eat all the diet. This is often a difficult problem but constitutes a large source of error and can only be corrected by a revision of the diet. A good many patients complain of hunger, perhaps due to lack of bulk, which can be helped somewhat by bran wafers, black coffee, beef tea.

3. Constipation is occasionally present and on account of its predisposition to attacks, should receive prompt attention, using salts, cascara or mineral oil.

4. The large amount of fat is often difficult to incorporate, particularly since it must chiefly be derived as pure fat (butter, cream, bacon, olive oil and cod liver oil). The result is often nausea. Nausea is even more common at the inauguration of the diet and can be avoided by a gradual change to the high fat diet.

5. Failure or misinterpretation in the urine tests for diacetic acid and acetone.

The patients are coached by the hospital dietitian in the arrangement of the diet and the writer wishes to acknowledge the valuable help of Miss Charlotta Nellis, dietitian of Christ's Hospital, who has been very helpful in the instruction of many of our patients. When the state of ketosis is established and the patient sufficiently informed, he is discharged from the hospital with the instruction to keep a daily record of the diet, the urine tests and convulsive attacks. The patient reports at frequent intervals and an attempt is made to personally check up the whole situation every two or three months.

## SUMMARY

The ketosis diet offers us a new treatment attack at the symptom complex of epileptiform convulsions and while less effective in organic convulsive states the ketogenic diet has proven of value in reducing the number of convulsions in a certain percentage of cases of idiopathic epilepsy.

In a series of twelve cases here reported, four were definitely organic, one being unimproved, two improved, and one controlled as far as his convulsive seizures are concerned. In the eight cases of idiopathic epilepsy, two were unchanged, two improved, and in four the convulsions were checked.

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## R

## The Diagnosis of Gall Stones

W. J. WALKER, M.D., Topeka, Kan.

Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

The basis of this paper is a series of 36 gall tone cases found at operation out of a total of approximately 2,400 patients of all kinds coming under observation during 1928, one and one-half per cent of all cases. While these are too few cases on which to generalize, nevertheless the average text-book chapter on gall stones is so inadequate that the review may be of interest.

Age: Gall bladder disease is generally considered a disease of middle life and old age. The average age of the patients in this series was 44 years. However one of these patients was 19 years; 6 were under 30 and 12 were under 40 years. That is, one-third of all cases were under



40 years. Eleven of the patients were in their forties and 9 in their fifties. So youth is by no means to be allowed to prejudice a diagnosis of gall bladder disease.

Sex: Thirty-three of the 36 patients were females. This is usual but interesting. Some reason should be apparent to account for this preponderance of women. The blame is placed on faulty dress, faulty diet, faulty posture, pregnancy, etc. A glance will convince one that these reasons are inadequate. It is a fair presumption that focal infections have some etiologic significance. On account of their predilection to pelvic infections women undoubtedly suffer from more subdiaphragmatic infections than men. Few women, especially those who have borne children, do not harbor some infection of the genital tract. Many of these are mild and often silent but I believe that the seepage of these infections through the hepatic system might readily account for the relatively high incidence of cholecystitis in the female.

History: A good history is the first step in arriving at a diagnosis. A casual history will not do. History taking should not be a casual, hit-or-miss affair, left to the interne or the nurse. Each has his peculiar routine in taking a history and this should be followed lest some detail be omitted. Many times one sitting is not enough. Two or three or more interviews with the patient may be necessary. Under the emotional stress of the first talk with the doctor patients are liable to forget even major accidents of their lives. The physician must not be brusque or unsympathetic or matter-of-fact. To him it may be just part of the day's work but to the patient it is an unusual adventure fraught with mystery and hope but always with disaster in the offing.

The usual complaint of these patients is "stomach trouble." Thus they describe most of their subdiaphragmatic mishappenings. She is then asked to tell her story in her own words. But to get her started right a few leading questions are asked.

First: When did your trouble begin? It is not as easy as it might seem to get

an answer to this simple question. But pin her down to quite a precise reply. The general answer is "some time" or "a long time." But insist, one week; one month; two months; six months; one year; five years; ten years or even twenty years.

Second: Most patients have pain. I try to get her to describe her pain or pains in her own words. She may have to have a little help in this. But the time spent in getting a satisfactory answer is well spent. Abdominal pains vary from slight discomfort or as is often expressed "a misery" to the most excruciating paroxysmal agonies. But a word or two can generally be found that will describe the type and severity and duration of the pain. An ache, a jumping ache, a misery, a feeling of distention or weight or burning or burning weight, a grinding pain, a stabbing pain, a gnawing pain or the classical terrific pain of gall stone colic in which the patient writhes in her agony and which is relieved only by hypodermic injection of morphia.

Then have her point with the fingers on her bared abdomen to the exact site of her pain and its radiations.

Then go into the factors affecting the pain. What provokes it? What relieves it? What makes it worse? And this is important, What is its relation to food? Does food taken make it better or worse? Do you have it before or after meals? Do you wake up in the night with it or do you have it before breakfast in the morning? Does a cracker or glass of milk or water relieve it?

Rule out the anginal pains and tabetic pains. Is there particular dyspnoea, or weariness? Is it a binding ache originating in the right lower breast or even in the epigastrium but radiating up and across the cardiac area into the left shoulder or even into the right shoulder; or down the left arm or occasionally down the right arm? Or the often forgotten lightning pains of the tabetic may be identified by the pupillary reflex, the Romberg test and the Wassermann.

Was the pain ever so severe that the doctor had to be summoned in a hurry and did he administer a hypodermic in-

jection? Was the pain followed by abdominal soreness for two or three days? Where exactly was the soreness? Did jolting, as for instance a rough auto ride, produce soreness in the abdomen?

With these questions answered satisfactorily the diagnostician can generally make up his mind as to whether the pain is super—or sub-diaphragmatic in origin.

But the universal complaint of these patients is dyspepsia. That may be the first thing the patient will tell about or it may be dragged out of her only with persistent questioning. Sometimes I wonder if these digestive disturbances are not so much and for so long a time a part of the everyday life of the patient that she accepts them as normal. So it may take a half dozen questions to satisfy oneself as to the gastro-intestinal functioning.

Inquire specifically. Do you ever have indigestion, dyspepsia, bilious spells, stomach trouble? Even with all these answered in the negative I have uncovered the whole story by the question, Did you ever have ptomaine poisoning, or the cramp colic? And even with these answered in the negative do not fail to ask about food idiosyncrasies and habits. Can you eat raw apples, tomatoes, acid foods, fried foods, greasy foods? Do you take soda? Are you constipated? Many patients will say that they are not constipated, and will then admit that they take physic regularly. Of course constipation is a very common symptom and of no particular significance but it is part of the clinical picture.

All these leads must be explored before one can give the gastro-intestinal tract a clean bill. Or a positive history of gastro-intestinal lesion will lead to two groups of symptoms-complex.

One: A clinical picture pointing to ulcer with these cardinal qualities; a dyspepsia that is chronic, intermittent and often seasonal, with a definite relationship to the intake of food and generally relieved by food.

Two: A train of reflex dyspeptic symptoms that are continual (contrasted with intermittent and seasonal of the first group) characterized by food distress, pain of varying intensity, disten-

tion, all provoked by or made worse by fried, greasy, acid, rough foods.

This second group points to (1) appendicitis, or, and (2) cholecystitis with or without stones.

The pain of gall stones may be the frank characteristic paroxysms of the disease; a grinding, cutting, tearing pain originating in the right hypochondrium or in the epigastrium and radiating around to the back in the right scapular region. These may be repeated at intervals and make the major clinical picture. These are self-diagnostic. The patient and his friends make the diagnosis.

But these classical symptoms are not the usual set-up. In the majority the symptoms are milder. There is generally one, at least, of these classical attacks. But as a rule the dyspepsia is the clinical characteristic. Gas, belching, nausea, with or without vomiting, sour stomach, distention and a varying amount of distress in the gall bladder region, often nothing but a burning weight following the rib margin to the back.

Jaundice and clay-colored stools are part of the text book description. These symptoms are of course significant and almost pathognomonic when present. But their absence is of no moment in deciding for or against a diagnosis of cholecystitis. In fact, recently I have seen two of these cases come to operation with no gall stones found either in the bladder or in the ducts. In neither case was there any gross cholecystitis. Of course it is to be assumed that the stone had been passed down into the intestinal tract.

In my hands the physical findings have been inconclusive and of slight help in arriving at a diagnosis. There may be abdominal tenderness. But it is by no means constant in the gall bladder region. More often the tenderness is in the ileo-cecal region. In only three of the 36 cases was there tenderness in the right hypochondrium to the exclusion of tenderness in other regions.

Palpation of the distended gall bladder is mentioned. In only two of the thirty-six cases am I satisfied that I was palpating the bladder. In other cases I thought I was but when the abdomen was



opened I knew I had not been near the gall bladder. So palpation is a worthless refinement as far as a diagnosis is concerned.

With this kind of history of a dyspepsia one is justified in suspecting gall bladder disease with or without appendicitis.

Then to confirm one's suspicious cholecystography is indicated. The technique elaborated by Graham and Cole is quite precise and constant in its findings. As the other roentgenologists perfect their finesse their readings are more and more helpful. They are not 100 per cent perfect but in the hands of competent men nearly so. Especially helpful are they in the case of women about the menopause with their multiplicity of ailments. Many of these have suffered much at the hands of many surgeons. With a suggestive history and positive x-ray findings operation is justified even in the face of previous unsuccessful surgery.

In reviewing my experience three features are impressive:

1. The supreme importance of a good history
2. The fallaciousness and inadequacy of physical findings
3. The confirmatory value of cholecystography, once the clue to the diagnosis of cholecystitis is uncovered.

—R—

### **Pernicious Anaemia—Primary or Addison's Anaemia**

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Read before the Sedgwick County Medical Society, April 2, 1929.

This paper will not deal with all of the details of pernicious anaemia or findings. These may be found in any good standard text book on medicine. An attempt will be made to bring out the most important points in diagnosis as well as the old standard and new rather revolutionary methods of treatment as brought out by Whipple and his associates<sup>1</sup>—and adapted to the treatment of the disease by Minot and Murphy<sup>2</sup> in 1926.

Pernicious anemia was first described by Addison<sup>3</sup> in 1855 and was defined by him as "a general anemia occurring without any discoverable cause whatever,

cases in which there had been no previous loss of blood, no exhausting diarrhea; no chlorosis; no purpura; no renal, splenic, miasmatic, glandular, strumous or malignant disease". This definition is as good today as it was when it was written but we might add that it is progressive and usually with remissions; with an extreme diminution of red cells and a relatively large amount of hemoglobin per cell, gradually leads to a fatal termination unless the present day methods of treatment are successful on further trial.

Pernicious anemia, which has long been practically a hopeless disease in spite of all treatments, has at last joined the group of diseases with more favorable prospects for the relief of the patient and, as it looks, a relief as outstanding as that in diabetes mellitus or syphilis, scurvy and tropical sprue.

#### ETIOLOGY

In spite of much research work and various theories as to cause this disease continues to remain more or less of a mystery. No known cause has been found for it. Similar blood pictures are produced by *bothriocephalus latus*,<sup>4</sup> syphilis, sepsis and tropical sprue. The action of these definitely known toxins and the absence of free HCl in the stomach has given rise to the theory of unknown toxins possibly entering the body through the alimentary canal. Green is of the opinion that a hemolytic streptococcus will yet be proven the cause. In line with these theories Dr. P. B. McLaughlin<sup>5</sup> treated several cases with intravenous injections of mercurochrome. His results were rather remarkable in that marked improvement occurred in each of 4 cases. Mocht<sup>6</sup> of Johns Hopkins has shown that the blood serum of pernicious anemia patients does contain toxins which are not present in normal blood and which tend to disappear as improvement takes place. In conjunction with Mocht, Baumgartner at the Clifton Springs, N. Y., Clinic, has treated quite a number of cases with quartz light therapy and eosin injections but unfortunately in most instances has also fed the patients a diet similar to that of Minot and Murphy. Minot<sup>7</sup> holds that

the toxins if present are probably due to the anemia and not caused by it. Arguing that the feeding of liver in every case has produced rapid improvement and could hardly be expected to do so if a septic process existed. He seems to be correct in his assumption.

There is one other prominent theory that seems very worthy of mention: Koessler<sup>8</sup> and his associates at Chicago contend that a diet low in vitamins especially vitamin A continued over long periods will produce anemia and therefore by replacing this deficiency the anemia should be and is relieved. However, Koessler used liver and kidneys heavily in his diets and the results are confusing. Liver extract free from vitamins will produce the same results as liver and seems to settle this theory definitely.

Pernicious anemia is found almost all over the civilized world. Those countries that eat heavily of foods rich in certain proteins, such as liverwort and sausages, have fewer cases. The disease becomes more and more common with present day diagnostic methods. It is practically always a disease of middle age, persons of 40 to 60 years of age being most commonly affected. It is rarely found in persons under 30 years or in the aged. Men are more often affected than women according to present reports<sup>4</sup>.

#### SYMPTOMS

The onset is so gradual and insidious that few patients can really tell just when symptoms began. One patient recently reported remembering a sore tongue for two years but had not been well for several years.

The patient is usually seen first in the office and complains of weakness, tiredness, shortness of breath on exertion with palpitation. He may come in primarily for "stomach trouble" complaining of anything from "fullness" with gas to definite or at times severe pain in the abdomen. He will tell you perhaps that all he can eat is bread and milk. He can't eat meat and often likes cream, butter and cereals. Constipation sometimes, and again loose bowels are complaints. Very often the tongue has been or is sore. It is always clean and

usually red. Ulceration may be present.

Numbness and tingling of the extremities more often in the legs and even an unsteady gait are common complaints and are due to patchy degeneration in the cord. Occasionally patients show definite central nervous system changes with irritability and at times psychosis.

The appearance at first glance may be that of good health, but on closer scrutiny the skin has a shiny, waxy look and a lemon yellow tint. He may have a little fever—not usually high. There may be slight edema of the ankles. The sclera of the eyes is quite white and the vessels are pale and small.

#### PHYSICAL FINDINGS

The heart is enlarged and a mitral and pulmonic systolic murmur is usually heard—typically a hemic murmur—the rate is increased and the heart sounds soft. The blood pressure is usually low. The abdomen is slightly tender all over. The liver is slightly enlarged. Temperature may be normal or up to 100°, not usually high. The optic disc and retina are pale. Slight edema of the ankles is usually present when the blood counts are low.

#### THE LABORATORY FINDINGS

The blood picture is characteristic: A low red count from 500,000 to 3,000,000, and a relatively higher hemoglobin. The color index and volume index are one plus. A leukopenia is usual. The lower white count is accepted by many to indicate a more serious outlook for the patient. Under the microscope there are poikilocytes, microcytes and macrocytes. Nucleated red cells are usually found and are much more numerous at the beginning of a remission. The platelets are decreased and the bleeding time is increased. The stomach contents show no free hydrochloric acid in practically all cases. The urine is usually rather dark or contains urobilin and this may be absent during remission. Albumin is sometimes present. Occasionally a nephritis is definitely present. The stools are typically a brownish color and are heavy in urobilin except during remission.

#### PATHOLOGY

Post mortem findings reveal the most classical appearance of fatty degenera-



tion of the parenchymatous organs of perhaps any disease—the liver and kidneys especially. All the muscles are flabby and red. The heart is enlarged as might be expected and fatty degeneration is found in its muscle. The liver is loaded with hemoglobin. The spleen is not usually enlarged. It is heavily loaded with broken down red cells, blood pigment and hemoglobin. The mucosa of the stomach has undergone atrophic changes. The red bone marrow is shot, red, and jellylike. It is loaded with embryonic red cells. Combined sclerosis of the cervical portions of the spinal cord and of the brain are sometimes present.

#### DIAGNOSIS

There are very few diseases which present a similar appearance to pernicious anemia, tuberculosis, lues, sepsis, and parasites as *bothriocephalus latus*. Carcinoma of the stomach may mislead one at first glance, but the blood picture with high color and volume indices—poikilocytosis and low platelet count; the absence of wasting and the waxy lemon tinted skin are quite characteristic. The presence of glossitis, cord changes should be looked for if there is otherwise a doubt, and lastly the absence of free HCl in the stomach contents. After following these findings through there is relatively little doubt about the diagnosis.

#### PROGNOSIS AND COURSE

The course is usually chronic and over several years duration. A few cases have been reported which have terminated fatally in from 10 days to 3 months. There is a question in my mind as to whether the diagnosis was made at the onset of the disease or after remission. Remission may last for as long as one to four years. The disease is usually slow and chronic. The patient who had been almost at death's door may in a comparatively short time be up and working again—you've all seen this happen.

The prognosis at present is hopeful, for long life. Formerly it was only a question of a few years. The new diets as advocated by Whipple, Minot and Murphy promise much to the class of patients which in my limited experience have almost always been most deserving.

#### TREATMENT

The tendency of the disease to spontaneous remissions and its odd and illogical course have caused many remedies to find favor because some patient has been helped while taking it or them. Spring and medicated waters—baths—electricity and autohemic sera have all had their advocates. One patient in an advanced state whom I attended five years ago was eating sandy earth which had cured a farmer in South Dakota. Others have used remedies equally as foolish and many times in good faith too.

Dilute hydrochloric acid has been a long standing remedy and is still used by many. The absence of free hydrochloric acid in the stomach contents lends some logic to its use and it is not objectionable. I think many patients eat better while taking up to 5 cc. in water before meals. Its value other than as an appetizer is doubtful.

Arsenic—as Fowler's solution—(Potassium arsenite) up to 10 to 12 drops given 3 times a day after meals has been a standard remedy for years. It does have a stimulating effect on the blood forming organs and is of benefit. Some have found results from other forms such as sodium cacodylate and neosalvarsan. As has already been mentioned mercurochrome and eosin<sup>6</sup> with quartz light therapy have been more recently used on several cases and good results obtained. However not enough time has passed or enough cases been treated to count on the value of such treatment as routine.

Considerable controversy has raged around blood transfusion. Who has not seen a remission started almost immediately after transfusion? The transfused blood acts as a whip to the red bone marrow and if it is capable of responding all is well. The transfused blood itself of course is short lived, as is evidenced by crenated red cells soon seen in the blood smears. When the bone marrow is exhausted no appreciable help is to be had from transfusion. Most of us have seen cases go on down and out with repeated and desperate attempts with transfusion. I saw one case that had had 26 separate transfusions but continued

his deliberate way to a fatal ending. When the patient is just seen in a low state and is unable to take nourishment—especially after hemorrhage from the gums or mucous membranes—(extreme cases) then a small transfusion of from 250 to 500 cc. of blood sometimes brings marvelous results and allows time to start other treatment.

Iron has often been given in various ways, but is of little value—if any. The red cells are already heavily laden with it as is the liver, spleen and kidneys. It is not a question of iron but of cells capable of using that which already is present in abundance.

#### DIETS

In 1920 Whipple<sup>1</sup> and his associates reported his work on diet rich in liver, kidney and red bone marrow, in the relief of produced anemia in dogs. The idea of being an important factor is not new. In 1746 Menghini showed that iron could be increased in the blood by feeding meats and vegetables and fruits. In 1885 Osler<sup>10</sup> stated that a well balanced diet containing meat and fresh vegetables together with a change of climate often brought about a favorable remission when other treatment had failed. Many others have since emphasized diet. Koessler<sup>8</sup> has emphasized the value of a diet high in vitamin qualities, but has used much liver in his diet for vitamin content along with other foods. His results were good.

Natives of Ceylon have for long used liver soup in the treatment of tropical sprue which is prevalent there. It produces a blood picture very similar to pernicious anemia.

Minot and Murphy<sup>2</sup> have reported remarkable results in the use of a diet rich in liver (180 to 250 gms. daily), low in fats (70 gms. daily), and sugar, relatively so in starches but high in fruits and vegetables.

1. 120-250 gms. cooked calves liver or kidneys may be taken raw.

2. 100 gms. beef or mutton muscle (lean).

3. 300 or more gms. vegetables 1-10 per cent carbohydrates, especially lettuce and spinach.

4. 250-500 gms. fruit.

5. 40 gms. fat from butter and cream. Animal fats excluded as far as possible.

6. One egg and 240 gms. milk.

7. Dry and crusty bread, potatoes, cereals to make 2000-3000 calories. Grossly sweet foods very sparingly.

This diet is rich in nucleins and gives an exceptionally high quality protein for the amount taken<sup>1</sup>. The character of the proteins is of much more importance than their iron content. Their ability to produce stroma in cells poor in this quality and the quick results obtained by its feeding proves the value of this treatment.

The results after four years in 160 cases is almost miraculous as compared with all other treatment. Remissions begin after from 2 weeks to a month and the counts have raised to 4 million or better. A few relapses have occurred but by increasing the liver in the diet they have been mild and of short duration. Health returned to these patients who formerly were doomed. The achylia has remained. Nervous system symptoms and gastric symptoms improved.

One difficulty encountered was the inability of some patients to eat enough liver. The appetite of a pernicious anemia patient is very delicate as a rule. Cohn<sup>2</sup> working with the originators of the diet perfected an extract of liver which is just as active as whole liver and much easier to take. Koessler and his associates have perfected another which I have used successfully in one case. However, I think Cohn's formula probably is more standard and usually use it.

In summary, I wish only to say that pernicious anemia, while not solved and still remaining a mystery to the medical profession, has been relieved. The patients who were formerly condemned to a lingering death may now be restored to society and a useful life. This is as much as may be offered at the present time. Perhaps the future yet holds happier news.

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## Diagnostic Relation of Roentgen Findings to Physical Signs

IN INFLUENZAL BRONCHOPNEUMONIA OF CHILDREN

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From the hospital records during the recent epidemic of influenza I have collected the data of 11 children having symptoms referable to the chest which were regarded as due to bronchopneumonia. As these more or less severe cases were secondary to a preliminary infection of the upper respiratory tracts and were characterized by intermittent high temperatures, cough, constitutional manifestations as well as by insidious extension to the lungs, it is reasonable to assume that the type of involvement was bronchopneumonia. Bronchopneumonia is the essential pathologic condition in the chest resulting from influenza. It is in this type rather than in frank, suddenly appearing chest involvement that the physician is in most doubt as to the nature of the changes in the lungs especially in excluding bronchitis.

Each of the 11 cases had one picture during the height of the disease and some had serial x-ray pictures taken during the course. It proved interesting to observe the nature of these films in comparison with the course and physical signs.

The first four cases are from the Children's Ward of the Kansas City General Hospital. The remaining seven were pa-

tients at the Bell Memorial Hospital, University of Kansas.

## COMPARISON OF FINDINGS IN 11 CASES OF BRONCHOPNEUMONIA IN CHILDREN

Case 1. Physical signs: Coarse, moist rales over entire chest; breath sounds were normal except at right apex, dullness on percussion in right apex. Blood count showed white blood cells 10,250, polys, 72 per cent. There was fever every day, from 99° to 104°. x-Ray showed right apex cloudy, both hilar regions cloudy but remainder of lungs clear. Conclusions from total findings were confluent bronchopneumonia in right apex, bronchopneumonia radiating from each hilum. Patient recovered by the eighth day.

Case 2. Physical signs: Fine, moist rales over both upper lobes, there was absence of bronchial, and increased vesicular breathing, and there was no dullness on percussion. Blood count showed white blood cells 14,350, polys 78 per cent. Fever ranged from 99° to 105.6°. x-Ray showed increased density in right middle lobe poorly defined margins; does not extend to axilla; remainder of lungs clear. Opinion was that there was right confluent bronchopneumonia.

Physical signs were absent or overlooked in right middle lobe, as a whole physical signs and x-ray finding do not agree. Patient recovered by seventh day after x-ray film.

Case 3. Physical signs: There were rales over right chest, normal breath sounds, dullness in right chest on percussion. Blood count showed white blood cells 13,850, polys 60 per cent. There was a fever of from 100° to 104° for seven days. x-Ray showed hilar shadows and lung markings not abnormal. Findings reported negative. The conclusion was influential bronchitis or unilateral bronchopneumonia. Recovery occurred in one month.

Case 4. Physical signs: There were rales in lower left and in middle and lower right lobes, breath sounds were normal, there was dullness on percussion in the lower left lobe. Blood count showed white blood cells 30,000—38,000, polys 74 per cent. There was fever, temperature of from 98° to 104.2°. x-Ray showed a negative film at first, but six days later there were increased trunk shadows and the left base mottled and thickened. The conclusion from the total findings was bronchopneumonia of the left base. There was recovery by the eleventh hospital day.

Case 5. Physical signs: There were crepitant rales posteriorly over entire lungs, no change from normal breath sounds, no dullness on percussion. Blood count showed white blood cells 30,000. There was irregular fever for eight days. x-Ray showed a general hazy appearance and an increased density in middle left and right chest areas: From the physical signs of diffuse rales only, the conclusion was disseminated bronchopneumonia, not tuberculous. There was recovery in eighteen days.

Case 6. Physical signs: There were rales over the entire chest, harsh breath sounds, and increased resonance on percussion in left chest. Blood count showed white blood cells 26,000, polys 79 per cent. There was fever with variable temperature up to 104°. Serial x-ray films showed left lung normal, abnormal haziness in right lung and obliteration of diaphragm. Opinion, bronchopneumonia. Clinical and x-ray findings agree on disseminated bronchopneumonia, but disagree on

location of confluent area. There was recovery by the nineteenth day.

Case 7. Physical signs: There were rales over right lung, the breath sounds were harsh over entire chest except left lower, and there was dullness on percussion in left lower. Blood count showed white cells 25,000, polys 81 per cent. There was fever for five days with temperature up to 105°. x-Ray showed right lung clear; patchy shadow, not uniform, in left lower. Opinion, bronchopneumonia. The conclusion was that from the short course of six days in which there was a rapid steady decline of fever, but with patchy shadows, a differentiation between lobar and bronchial pneumonia is difficult.

Case 8. Physical signs: There were fine rales at the right base, breath sounds were diminished in right lower half of chest and no bronchial breathing, dullness on percussion in right lower. Blood count showed white blood cells 31,000, polys 82 per cent. There was fever for eight days with temperature up to 106°. x-Ray showed the right lower lobe hazy, thickening of pleura, and diaphragmatic involvement. The opinion was right lower pleurisy and pneumonia, type not stated. The conclusion, with no physical signs on the left side, was a right lower lobar pneumonia.

Case 9. Physical signs: Rales were heard over entire chest, there was bronchial breathing at left base, and on percussion slight dullness at left base. Blood count showed white blood cells 30,000, polys 82 per cent. Fever was variable with temperatures up to 104°. x-Ray showed some mottling of entire chest, especially at left base. Later film showed increased hilar markings. Report gave opinion of bronchopneumonia. Conclusion was disseminated bronchopneumonia, and confluent at left lower lobe. Patient was sick twelve days.

Case 10. Charles Kenally, aged 4 months. Sick 9 days with cough, rapid breathing, grunt, poor excursion of chest, cyanosis and convulsions when entering hospital. Subcrepitant rales over entire chest, increased breath sounds; dullness right lower lobe, increased vocal fremitus left chest. White blood count, 19,000. Death on second hospital day.



FIG. 1

x-Ray showed left lung clear; right side, mottled infiltration from apex to base characteristic of extensive pneumonia. Diaphragm right side gives irregular hazy outline, probably due to pleurisy.

Autopsy: Acute interstitial bronchopneumonia. Hemorrhagic areas throughout lungs, but most of lung tissue is crepitant, alveoli contain bloody fluid. Microscopically, alveolar framework is thickened, congested and infiltrated with all kinds

of leucocytes. Vessels engorged. Small round cell infiltration. Patches showing atelectasis, others congestion, bronchi contracted, lumen containing amorphous material.

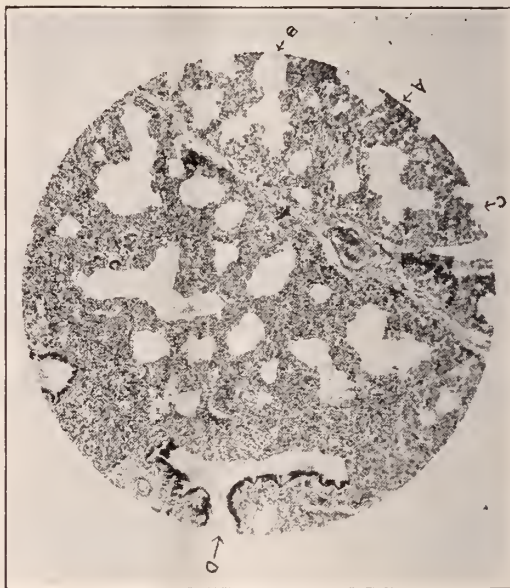


FIG. 2

- A. Greatly thickened alveolar walls in interstitial pneumonia.
- B. Alveolar space.
- C. Engorged blood vessel
- D. Lumen of bronchus containing mucoid material.

Discussion: Right lower lobe dull—x-ray, mottled infiltration from apex to base, advanced lesions at autopsy. Left lung: Subcrepitant rales diffuse, increased vocal resonance—x-ray clear. Autopsy: Definite interstitial bilateral bronchopneumonia.

Case 11. Baby Burley, aged 9 months. Sick 11 days with influenza before admission. Expiratory grunt, rapid shallow respiration, cough, impaired breath sounds over both lungs, coarse and fine rales over entire chest, resonance increased. Ab-

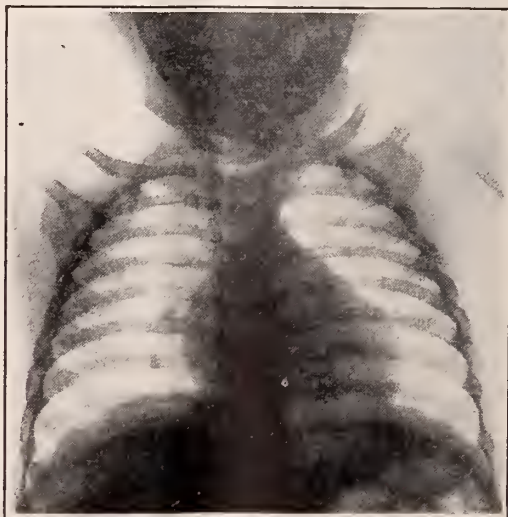


FIG. 3



dominal distention. White blood count 25,000, polys 90 per cent; fever from 101° to 104°. Tuberculin in high concentration negative.

Two x-ray films taken during hospital stay of 11 days showed no infiltration nor significant findings for pneumonia. Second film was taken day before death.

Autopsy: Anatomic diagnosis of bilateral confluent broncho-pneumonia. Microscopically—pleura thickened, section of lung shows dense mass of polys and round cells with occasionally a bronchus filled with pus cells and fibrin; alveolar wall can be seen in some areas, alveoli filled with masses suggestive of bacteria. Large vessels filled with red blood cells.



FIG. 4

A. Bronchus filled with pus and debris.  
B. Blood vessel.

C. Dense mass of polys and round cells.

Discussion: Both lungs: Increased resonance, disseminated rales, impaired breath sounds, x-ray entirely negative. Autopsy: bilateral confluent bronchopneumonia.

#### DISCUSSION

Seven of these cases I saw daily, but not all of the notes were dictated by me. I think the records correspond however with the impression which I had of the findings. I cannot help believing that if a number of physicians independently examined a young child's chest, there would be no uniformity in the interpretation of the physical findings. If unmistakable dullness were present, possibly all would agree. Normal variations or slight abnormalities in resonance would not be uniformly found by all of the examiners. Fremitus, increased vocal resonance, the description of the rales, normal and impaired chest-wall expansion, would probably be interpreted variously by different indi-

viduals. So that one will agree with J. Crozer Griffith that "Clinical diagnosis is biased by the views of the particular examiner, because of the personal equation," which enters into every interpretation. This especially holds good in bronchopneumonia where atypical cases are frequent, and as L. R. Sante stated about the epidemic of ten years ago, the pneumonias were lawless in their diversity of changes and physical signs. Physical diagnosis then in bronchopneumonia is far from infallible. The same factors that work against a correct interpretation by the x-ray are existent for physical signs, due to the dissemination and small size of the lesions, the presence of normal areas anterior or posterior to the lesions, the existence of areas of either emphysema or atelectasis.

It has been stated that in children only about 15 per cent of pneumonic cases accompanying or following influenza are lobar in type, so the history should play some part in the diagnosis. The wide extremes of temperature at the height of the disease should ordinarily favor the diagnosis of bronchial pneumonia. In only two of the cases which I have discussed was leucocytosis absent, yet Osler states that leucocytosis is absent in about half of the cases due to influenza. The duration of bronchial pneumonia is usually considered somewhat longer, and not critical on definite days as in the lobar type. Holt states that in acute disseminated bronchopneumonia there may be complete recovery by the seventh day, in common lobular bronchopneumonia fever lasts one or two weeks, in secondary interstitial bronchopneumonia such as due to influenza a small number of cases may recover in 7 to 15 days, but most of them persist and recur. The lowest mortality in bronchopneumonia is, according to Holt, found complicating influenza.

Conclusions as to the comparison of the x-ray with the physical signs are difficult. Most any physical sign may be missing. Osler states that in influenzal pneumonia dullness alone or dullness and rales may be all of the manifestations; that bronchial breathing and bronchial whisper may be present without

any other signs. Dullness depends upon confluence of the neighboring consolidated areas. As to the *x-ray* shadow, Osler states that *x-ray* does not definitely tell us whether lobar or bronchial pneumonia exists, or make a diagnosis of consolidation before this is demonstrable by physical signs. A helpful fact is that in bronchopneumonia there is evidence of diffuse or scattered lesions elsewhere than in the confluent or consolidated patches.

From the shadows seen in the films of these cases one would conclude that some cases present an appearance that cannot be differentiated from the normal. In others where consolidation is evident, the shadow may be light due to superficial involvement of the lobule or portion of the lobe, air-holding tissue being in the path of the ray. Disseminated areas are too superficial or isolated to produce any shadow, or at most only mottling. Confluent areas may be assumed from a rather indistinct but widespread shadow, the borders of which are usually not so definite as in lobar type. Exaggeration of the hilar markings are the most common manifestation in these films, caused by thickening of the large bronchi, enlargement of the peribronchial glands, and congestion of the blood vessel walls.

The films of only two cases are reproduced in this Journal. Both children came to autopsy. In Case 10, the autopsy proved bilateral interstitial bronchopneumonia, the physical and the *x-ray* agreed as to bronchopneumonia on one side, but the *x-ray* was negative on the other side, while the physical signs showed increased resonance in contrast with dullness of opposite lung, and diffuse subcrepitant rales. In Case 11, the autopsy proved bilateral confluent bronchopneumonia, the *x-ray* films were negative, the physical signs showed general impaired breath sounds, rales disseminated over entire chest, and the percussion note hyperresonant throughout the chest.

I wish to mention the conclusions in a paper read by J. Crozer Griffith at the 1928 meeting of the A.M.A. in Minneapolis. He analyzed 26 cases of pneumonia which had been studied from the stand-

point of the physical signs, *x-ray* pictures and autopsies. The physical signs, *x-ray* and autopsies all agreed in only 6 instances. In 10 cases the clinical and *x-ray* agreed, but in 4 of these both were wrong. In 16 cases the clinical and *x-ray* disagreed, the clinical correct in only 9, the *x-ray* in only 6.

One should be able to diagnose a secondary bronchopneumonia from the history of influenza, the constitutional symptoms, the cough, rapid breathing, dyspnea, in severe cases cyanosis, diffuseness of the usual rales, change to either hyperresonance or dullness on percussion, increased or decreased breath sounds. In some instances valuable help will be gotten from *x-ray* pictures, especially if a series throughout the course be observed. In other instances no help will be obtained, either because of indefiniteness or absence of abnormal findings in the shadows. The autopsy findings are entirely conclusive but they come too late to be of any assistance.

#### —R— **Agranulocytic Angina**

J. L. LATTIMORE, M.D., Topeka

Read at the annual meeting of the Golden Belt Medical Society in Topeka, on April 4, 1929.

The name (agranulocytic angina) may be a misnomer and some of the physicians who have reported cases, question whether it is a clinical entity or merely a symptom. During the past two years, especially, the numbers of reported cases have shown a marked increase. However, some of the cases reported do not correspond with the typical picture as described by Shiltz in 1922. Turk first described the condition in 1907, but during the period between 1907 and 1922, little or no interest was manifested in the disease. A search of the literature shows records of 138 cases, approximately 100 reported in Europe and the remaining number by American physicians.

The classical cases show few pathological findings, but sore throat, toxemia and marked leukopenia are present in all cases. The streptococcus is given as the etiological factor in practically all cases. However, one case was reported as due to the bacillus pyocyaneus and another to the pneumococcus. In a large number of



the cases, several different bacteria are reported such as the streptococcus, staphylococcus, pneumococcus, micro-carrhialis, influenza and pyocyaneus. Blood culture findings are not constant, some investigators reporting positive cultures, while others report negative. It would appear that the blood stream infection is secondary to that in the throat.

The blood findings appear to be fairly uniform in so far as the leucocytes are concerned. All reported cases show a leukopenia. However, the typical cases show a *marked leukopenia*, the white count often being less than 1,000, and in some cases there are as few as 100 white cells. The decrease in polymorphonuclears is constant and in some cases a complete absence is noted. In some cases there may be a fifty to eighty per cent decrease in polymorphonuclears. The red cells show only a secondary anemia and there are no characteristic changes. Blood chemistry shows no changes of interest other than slight increases in the urea non-protein nitrogen, etc. These changes, however, may be the result of the physical condition of the patient before onset of the disease.

One of the best checks of the diagnosis is the universal prognosis of death. All cases reported, that I have read, have resulted in death within a few days. Some cases reported as possible agranulocytic angina have recovered in due course of time, but these cases have been classed as infections mononucleosis, a condition to be considered in making a differential diagnosis. Typical leukemias must also be considered in diagnosis, but as a rule may be easily differentiated by blood counts.

The physical findings are varied. However, the one constant pathological lesion is a sort throat, described by various authors in various ways. Some report a deep ulceration, while others report a red, hyperemic congested condition. The throat changes are rather acute and associated is headache, dizziness, malaise, general feeling of depression, with various referred pains to the chest, abdomen and extremities. The breath is foul, the sputum is mucinous and the

terminal stage in many cases is often a pneumonia.

In reporting this case, I take no credit whatsoever, as diagnosis was not made until after death and was made by Dr. Geo. H. Litsinger after a review of the literature. A number of blood tests were made in our laboratory and these will be reported with the other findings.

#### CASE REPORT

Patient was a white female, age 65, unmarried. At age of nine years had bone tuberculosis, and has had more or less trouble of this nature all her life. Has never been diagnosed as a pulmonary tuberculosis. Had influenza last fall and has not been well since then. She has, however, not been confined to her bed until onset of recent illness. Living conditions are almost ideal, surroundings healthy and happy, so that no work or responsibility falls upon her. These very probably are very important factors in her ability to withstand a tuberculous infection of so long standing.

The onset of the angina was February 11, when she had a chill in the afternoon, her temperature reaching 103 degrees. Following chill, patient complained of malaise and indistinct pains in the extremities. Her brother is a physician and he called consultation on the afternoon of February 12. Her temperature on this date varied from 102 to 103.4, and there was complaint of severe pains in the head. February 13, patient complained of severe pain in the throat. Physical examination showed only a red, hyperemic congested condition of the mucous membrane of the throat. The following three days, patient complained only of severe throat pains and referred pains to the extremities. On February 16, patient had a severe chill, and a slight chill on the 17th. On the eighth day after onset, patient still complained of severe throat pains. Examination of the throat showed a slight, greyish patch on the uvula, but did not have the appearance of a true membrane. Patient died on the tenth day showing a terminal pneumonia.

Laboratory findings: Blood cultures negative. White count varied from 800 on February 12 to 1,500 a few days later.

The count again dropped near the terminal stage. Polymorphonuclears 34 per cent. Moderate secondary anemia.

Comment: Agranulocytic angina appears as a condition worthy of consideration in throat conditions with a leukopenia.

Differential Diagnosis: Infectious mononucleosis and atypical lymphatic leukemia.

Prognosis: Extremely grave, regardless of treatment.

### —R— TUBERCULOSIS ABSTRACTS

One of the oldest "laboratory" tests, known even to the ancients, consisted of noting whether a patient's sputum floated or sank in a pail of water. Medieval physicians struggled heroically to interpret the meaning of physical and chemical changes of bodily secretions. Labora-



Mal d'Amour, by Gerard Dou

tory tests are today more trustworthy and precise, yet we are frequently warned not to rely too complacently on the laboratory findings for a diagnosis. At the other extreme is the tendency to neglect laboratory tests altogether. The presence of tubercle bacilli in the sputum clinches the diagnosis; yet, all too often, this simple procedure is neglected or not repeated often enough. Dr. Henry Stuart Willis, of Johns Hopkins Hospital, who contributes this number, describes the characteristics of the secretions of the

tuberculous body and the tests which are applicable to them.

### Sputum, Pleural Effusion and Special Fluids

The secretions of the tuberculous body vary according to the site of the disease and its degree of development. Sputum, for instance, may be very scanty in amount and mucoid in character in one stage of the disease, and very abundant, purulent, bloody or foul at other stages. Pleural effusion fluids may be serous or bloody: they may contain but few cells or may be frankly and grossly empyematous. Urine may contain pus or blood or both. Cerebrospinal fluid may be clear and limpid or turbid. None of the secretions has properties that are specific for tuberculosis but most of them do possess characteristics which strongly suggest tuberculosis.

#### SPUTUM

Sputum may differ in quantity and quality in different stages of pulmonary tuberculosis. A small, nonulcerative lesion that is moderately well invested with fibrous tissue will produce but little mucous, fibrin, debris, or pus cells, as compared with the ulcerative or cavitative lesion. Yet, it does have certain general features of importance. It is often thick, tenacious, yellow, or grayish-yellow, mucopurulent or purulent. The specimen frequently consists of a thin, salivary liquid in which the mucopurulent "gobs" are suspended: these sink to the bottom as rounded, "nummular" bodies. Interspersed throughout the more homogeneous, thick matrix of these bodies may frequently be found numerous minute, whitish, opaque particles, and these are much more likely to contain tubercle bacilli than other portions of the specimen. They are more readily detectable when the specimen is placed in a petri dish or on a glass plate and examined over a black background. They may be brought to view by squeezing the specimen between glass plates.

The sputum may be bloody. Blood may be present in large quantity or it may be represented merely as an occasional "streak." Blood in the sputum, regardless of the amount, is a leading indica-



tion of tuberculosis and justifies a presumption that tuberculosis is the cause, until a definite cause is demonstrated. The physician in charge of the hemoptoic patient, must, therefore, determine the source of the blood if this be possible. Bloody sputum should always be carefully examined for tubercle bacilli, although when the amount of blood is large, the number of bacilli is usually proportionately small.

Tubercle bacilli are nearly always, sooner or later, demonstrable in pus which comes from the tuberculous lung. The continued presence of such sputum, in which repeated examinations fail to reveal these bacteria, is presumptive evidence against tuberculosis and points rather to some other pulmonary disease (abscess, bronchiectasis, mycotic infection, etc.).

The sputum raised soon after the patient gets up in the morning usually contains more bacilli than specimens obtained at other times. It may become necessary for the doctor to supervise the collection, especially in people with only a slight cough and but little sputum.

The most significant constituents of the sputum in tuberculosis are tubercle bacilli. In the late stages, these are exceedingly numerous and easy to find, but in early stages when the diagnosis is uncertain, very few tubercle bacilli may be present and only intermittently so. Therefore, frequent, careful examinations, repeated daily for some time should be made. The old Ziehl-Neelsen staining technique is simple, relatively quickly carried out, and thoroughly dependable.

#### PLEURAL EFFUSION

Pleurisy with effusion is regarded as being tuberculous until some other etiological factor can be definitely demonstrated. The fluid is viscid and usually of a straw or amber color but may be sanguineous or empyematous. It is an exudate fairly rich in lymphocytes and of rather high specific gravity. It is obtained by ordinary thoracentesis. It must be differentiated particularly from the fluid which occurs in the chest in cardiac disease and from that in pulmonary neoplasm. The fluid in cardiac

disease is nearly always thinner, of lower specific gravity and cellular content than that in tuberculosis. It is associated with cardiac disease, is often bilateral, and tends to recur. The fluid in association with tumor tends to be sanguineous: if not bloody at the first aspiration, it is very likely to become so on repeated tapings. It tends to recur. The clinical history and examination, together with the continued absence of tubercle bacilli in the fluid, point away from the diagnosis of tuberculosis.

The fluid in pleurisy with effusion must either be examined promptly upon withdrawal or an anti-coagulant must be added. Painstaking microscopic examination of the sediment of fairly large amounts of the fluid in pleurisy will yield tubercle bacilli in more than one-half of the cases. The incidence is much higher when the fluid is empyematous. Indeed, the fluid in tuberculous empyema sometimes contains myriads of tubercle bacilli, especially if rupture of a cavity wall has taken place. It is well to centrifugalize several hundred cubic centimeters of the fluid, remove the sediment, and recentrifugalize it for microscopic examination, animal inoculation or planting on culture.

#### CEREBROSPINAL FLUID

In tuberculous meningitis, the fluid is generally limpid, clear, and under slightly increased pressure, although in fulminant cases it may be turbid. The cell count is generally above 100 cells per cubic mm. and may reach several hundred without the appearance of a grossly detectable opalescence. A few hours after withdrawal, there nearly always develops within the fluid a characteristic (but not pathognomonic) grayish-white, thin, filmy veil which is composed of strands of fibrin that form a delicate network. In the meshes of this structure is gathered most of the particulate matter of the specimen—cells, tubercle bacilli, etc. This pellicle is, therefore, of importance in the search for tubercle bacilli. It may be prepared for stain very easily, as follows: A clean coverslip containing a thin film of fixative is placed in the bottom of a clean medicine glass. The fluid is then collected directly into this container,

which is placed in the ice box for a few hours or over night. The pellicle is deposited on the coverslip, which is recovered after a very careful removal of the fluid with a pipette. The coverslip is then allowed to dry, is fixed by passage through a low flame, stained and examined. Cerebrospinal fluid may be centrifugalized and the sediment inoculated on media or into animals.

#### URINE

Tuberculosis of the genitourinary system is uncommon without evidence of the disease in some other part of the body. Frequency of urination, intermittent hematuria or pyuria or unexplained polyuria (especially in renal tuberculosis) suggest a careful search of the urine for tubercle bacilli. Urine containing pus in which microorganisms of disease are absent is a leading sign of renal tuberculosis because in nearly every other disease which causes pyuria the causative bacteria are easily detected. However, the detection of other bacteria in such urine does not eliminate tuberculosis, for secondary invaders are not uncommon. Sterile pyuria may occur in posterior urethritis.

Tubercle bacilli may be present in the urine in enormous numbers although sometimes very few are detectable. They may be conveyed by the hands to the urine from the patient's sputum and thus lead to a false diagnosis. Bacilluria is frequently intermittent. For microscopic study, either a specimen obtained after scrupulous cleansing of the external meatus and irrigation of the external urethra with sterile water or the sediment of a 24-hour specimen should be used. Smegma bacilli inhabit the external genitalia and may lead to an erroneous diagnosis unless this be guarded against.

—————R—————

#### Denatured Vaccines

One of the basic hypotheses of vaccine therapy is the assumption that the artificial immunity produced by killed cultures, bacterial autolysates and other microbic products is necessarily specific for the living micro-organisms from which the vaccines were obtained. Nevertheless, commercial exploitation almost

invariably overlooks or neglects the fact that such vaccines, while demonstrably antigenic, may be so altered in specificity as to be inoperative against the living micro-organisms. It has been found that bacteria treated with certain chemicals "may be changed so that new antigens are formed to which rabbits respond by the production of antibodies specific for the altered bacteria." These antibodies which are "different from those formed for live organisms, were not demonstrated to be bactericidal for live bacteria." (J.A.M.A., August 31, '29.)

—————R—————

#### Acquired Pollen Hypersensitiveness

In order to account for acquired pollen hypersensitiveness, clinicians usually assume that at some previous time the patient has inhaled, has swallowed or has otherwise been inoculated with a specific pollen. According to this hypothetic etiology the patient should be equally hypersensitive to the individual proteins of this pollen, assuming, of course, that these proteins are all equally antigenic. That such patients are not thus equally hypersensitive appears from recent work. This work throws doubt on the common assumption that acquired pollen hypersensitiveness is due to previous exposure to a specific pollen, and equal doubt therefore on the rationale of current methods of antiallergic therapy. (J.A.M.A., August 31, '29.)

—————R—————

Scotchman (to caddy)—Ah, me bye, they do say that you are a good caddy.

Caddy—I sure am, I am the best on the course.

Scotchman—That's fine, then I suppose that you are good at finding the balls.

Caddy—That is my long suit.

Scotchman—That is excellent! Find one and we will begin.

✦ ✦ ✦

Farmer Corntassel had just retired and moved to town. In the morning, after spending the first night in the new house, his wife said. "Well, Paw, hain't it about time you was getting up to build the fire?"

"No, siree," replied the old gent. I'll call the fire department. We might as well get used to these city conveniences right now.

✦ ✦ ✦

Mistress: "What beautiful scallops you have on your pies, Mandy! How do you do it?"

Cook: "Deed, honey, dat ain't no trouble. Ah just uses mah false teeth."



# THE JOURNAL

of the

## Kansas Medical Society

W. E. McVEY, M. D. - - Editor

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### INFRACTIONS OF THE PRINCIPLES OF ETHICS

There has been a great deal of discussion and a great deal of criticism, now and then, of our principles of ethics, both by laymen and by members of the medical profession. Usually in such discussions it is evident that the authors are sorry for us, also that they are ignorant of the text of these rules of conduct and of the basic principles upon which they are formulated. Possibly this accounts in some measure for the frequency of infractions of the principles of ethics and the tolerance with which such infractions are regarded. There seemed reason enough at any rate to let the members of this society judge for themselves if they shall continue to regard themselves as fit subjects for condolence, or if they should be proud of the fact that the association to which they belong had promulgated these principles a century ago—principles that are now being recognized, adopted and elaborated by big and little business all over the country. The text was published in full in the August number of the Journal and it is intended now to call attention to some of their most common violations.

### COMMISSIONS

After the copy was in type for the August number it was learned that the section referring to commissions had been changed at the last meeting of the Association in Portland.

For the section which formerly read as follows:

Sec. 3. It is detrimental to the public good and degrading to the profession, and therefore unprofessional, to give or to receive a commission. It is also unprofessional to divide a fee for medical advice or surgical treatment, unless the patient or his next friend is fully informed as to the terms of the transaction. The patient should be made to realize that a proper fee should be paid the family physician for the service he renders in determining the surgical or medical treatment suited to the condition, and in advising concerning those best qualified to render any special service that may be required by the patient.

there was substituted the following:

Sec. 3. When a patient is referred by one physician to another for consultation or for treatment, whether the physician in charge accompanies the patient or not, it is unethical to give or to receive a commission by whatever term it may be called or under any guise or pretext whatsoever.

Not having the argument at hand at this time, no guess will be made at the reasons offered by the judicial council for the change they proposed. Having the original section and the substitute before us, however, we may make our own comparisons. Some of the original section which seemed to mitigate the force of the restriction has been omitted and some of the privileges which that section seemed to grant have been curtailed. It has been simplified and for that reason should be less easily evaded. However, it is not "hog tight." One may wonder what its application will be to a custom which is said to be prevalent in some sections of the country, in which the general practitioner who has a patient requiring operation employs the surgeon, pays him the fee agreed upon, and later collects from the patient or his friends what he thinks the business will stand. Of course this is quite as much a violation of the spirit of the prohibition

as paying a commission, but technically—What will the judicial council decide?

One may wonder how this new section will apply to a situation which will soon need to be met. A general practitioner who has a large business and requires surgical assistance several or many times each month, employs the surgeon of his choice on a fixed monthly salary to do all of his surgery, and charges his patient the usual fees or more, or nothing if he chooses, for the operations. Apparently such contracts are on ethical grounds, at least when made with railroads, insurance companies, industrial corporations, etc. If such contracts are ethical when made with corporations they must also be ethical when made with individuals. If not, why?

Some years ago the legislature of this state passed a law prohibiting the division of fees and providing, in effect, that both parties to such a transaction may be punished by having their licenses revoked. There have been no complaints of fee splitting by members of the Kansas profession since that time. This statement is made merely to preface the remark that it is doubtful if the principles of ethics has been or is likely to be a deterrent influence with members of the Society who need to be told that it is detrimental to the public good and degrading to the profession to give or to accept commissions.

One who is conscientiously addicted to doing what is right will find full justification for declining to participate in this form of profit sharing, in a very simple statement of its bad ethical odor, for it is not the words but the principle that counts. Unfortunately there are some in the medical profession, as in all other groups of people, who overlook the principles and see only the technical wording of a restrictive measure, and these can usually find some loop hole by which the

principle can be evaded. It is doubtful if a section covering the principle here involved can be so constructed as to resist the evasive efforts of those who feel hampered by such restrictions.

One wonders if this is only a gesture on the part of the judicial council, or if it is really intended that this particular one of the virtues prescribed by the principles of ethics must be practiced more assiduously hereafter by members of the Association. Some weight might be given to such a pronouncement in states with laws such as ours, for in that case by co-operation with the state the Association could become a formidable censor. But there are numerous other infractions of our principles of ethics, for the punishment of which there are no state laws to be invoked.

#### CONTRACT PRACTICE

For some time there has been a section in the principles of ethics which reads as follows:

Sec. 2. It is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate service to his patient or which interfere with reasonable competition among the physicians of a community. To do this is detrimental to the public and to the individual physician, and lowers the dignity of the profession.

So far as one can tell no particular attention has been paid to it, and its very existence seems to have been lost sight of. At any rate there was introduced and passed, at the last annual meeting of the Association, a resolution "providing that the judicial council of the Association be asked to present to the house of delegates at the annual meeting in 1930 a comprehensive statement for the guidance of the American Medical Association concerning the practice of medicine by corporations, by clinics, by philanthropic organizations, by demonstrations and by similar organizations, and concerning the relationship of physicians thereto."



Of course it is recognized that the scope of activities to be considered under this resolution is much wider than now provided for by the present section of the principles of ethics, but not of greater economic importance. Violations of that section are now of such common occurrence, and there are so many members of the Association now under contract, so many expecting to make connection with some corporation or association, and so many others hoping for an opportunity to make favorable connections, that a little matter of ethics has a poor chance.

On account of the propaganda put forward by the friends of state medicine, and the increasing number of organizations opposed to state medicine but prepared to capitalize the idea itself, and the apparent lack of any organized opposition, there seems to be developing in the minds of the general practitioners a great deal of uncertainty as to the future of the practice of medicine in this country and, whether or not there is real occasion for alarm, many of them seem to think it wise to make sure of a good job while jobs are to be had.

The establishment of a great hospital plant, efficiently equipped, and with grounds that are beautifully landscaped, is a matter of civic pride to the capital city of Kansas, but it is a matter of considerable financial concern to the hundreds of practitioners throughout the state whose best paying patients are being care for by this institution, at an expense to them of a mere pittance in the way of hospital fees, fees that are paid not only by the few thousands that receive the service but also by the several hundreds of thousands to whom the hospital is inaccessible on account of distance and its services therefore not available. There is occasion also for further

speculation in the recent announcement by one of the oldest fraternal insurance orders in the state that "a free hospital service is being considered." There is reason for some further concern in reports of the formation of hospital associations in various parts of the state. These serve but limited numbers, it is true, but being more accessible to the community are in more direct competition with the physicians located there.

Association by members of the Society with such institutions as those described is in violation of that section of the principles of ethics quoted above, but so also is a similar relation with railroad and other industrial hospital associations. Perhaps in its deliberations suggested by the resolution recently adopted the judicial council will determine how a distinction may be made between ethical and unethical contract practice.

There are still other very common infractions of the principles of ethics which in some instances meet with the severest rebuke and in other instances are ignored.

#### ADVERTISING

Because of the variety of interpretations of the section covering this subject it is quoted in full:

Sec. 4. Solicitation of patients by physicians as individuals, or collectively in groups by whatsoever name these be called, or by institutions or organizations, whether by circulars or advertisements, or by personal communications, is unprofessional. This does not prohibit ethical institutions from a legitimate advertisement of location, physical surroundings and special class—if any—of patients accommodated. It is equally unprofessional to procure patients by indirection through solicitors or agents of any kind, or by indirect advertisements, or by furnishing or inspiring newspaper or magazine comments concerning cases in which the physician has been or is concerned. All other like self-laudations defy the traditions and lower the tone of any profession and so are intolerable. The most worthy and effective advertisement possible, even for a young physician, and especially with his brother physicians, is the establishment of a well-merited reputation for professional ability and fidelity. This cannot be forced, but must be the outcome of character and conduct. The publication or circulation of ordinary simple business cards, being a

matter of personal taste or local custom, and sometimes of convenience, is not per se improper. As implied, it is unprofessional to disregard local customs and offend recognized ideals in publishing or circulating such cards.

It is unprofessional to promise radical cures; to boast of cures and secret methods of treatment or remedies; to exhibit certificates of skill or of success in the treatment of diseases; or to employ any methods to gain the attention of the public for the purpose of obtaining patients.

Inasmuch as the application of this section to the publicity campaign conducted by our Bureau of Public Relations has already been discussed in these columns, it might be well to point out that the prohibition refers to advertisements intended to glorify the individual or individuals, to proclaim the superiority of his or their skill and sell his or their services to as many people as possible.

The term publicity is more comprehensive and is more expressive of what this section is intended to prohibit. There is free publicity and paid publicity but the latter only is regarded as advertising by most people, and free publicity is usually presumed to be news. To determine what is and what is not news requires keen discrimination and sometimes makes the application of this section of the principles of ethics very difficult. What would be regarded as a very important news item by the Podunk Times would be ignored by a metropolitan daily. If Lindbergh lost his pocket knife, it would draw a double column black face headline in any of the big dailies, but if Jeff Peters lost a diamond ring or an automobile he would have to pay line rates to get it mentioned.

There are no real news makers in the medical profession of this state and there are not very many in the United States, though there are a good many that seem to be publicity victims of the news gatherer. As an illustration, there appeared recently in one of the largest daily newspapers in Kansas under a Philadelphia date line and a double column display

headline, a news item, which has been garbled enough to prevent identification and to avoid embarrassing comments:

**Philadelphia Doctor Saves Life of Podunk, Kansas, Man**

Philadelphia, Pa. — (Special) — Dr. Ricardo Corncora, world famous corn surgeon, has saved the life of Jeff Peters, 60 year old Podunk, Kansas, man, it was revealed for the first time today. Dr. Corncora, recognized as the world's greatest authority on the removal of abnormal growths from the toes and feet, recently removed a hard corn from the right foot of the Kansas man, which, according to physicians, would have eventually caused infection and certain death.

The man, who is the father of a prominent Podunk attorney, acquired this corn several months ago while wearing a pair of his son's shoes that were too large for him. Kansas doctors were unable to relieve the severe pains which came upon Jeff, and as a last resort, he was rushed to this city. The dextrous hands of Dr. Corncora performed the delicate operation with the clavotrite, his own invention for which he received a \$10,000 award and other honors. He is a knight of the order of C.O.B.S., etc.

There is no member of the Kansas Medical Society who is big enough to get by with that sort of publicity without making a lot of explanations and apologies, but on account of his great renown and high professional standing, no one would even suspicion the real subject of the original news item of furnishing or inspiring newspaper or magazine comments concerning cases in which he has been or is concerned. Had the subject of this news item been a member of the profession whose star of ascendancy was of lesser magnitude one might suspect the employment of a press agent, but not so in this case. Yet it does seem strange that doctors are the only group of men, except those immediately in the public eye, upon whom publicity is forced.

The appearance of such articles in the larger newspapers raises many questions about ethics in the practice of medicine, especially in the minds of the average man. What height of professional standing must one attain, what degree of renown must he have reached, how many honors conferred upon him by his associates and how much recognition given him by the public, before he becomes im-



mune to the provisions of the principles of ethics?

Certainly no one should envy the judicial council to whom was delegated the solution of all these problems in medical ethics.

#### ENFORCING THE RULES

Some effort should be made to create more respect for the principles of ethics and some reasonable and practical methods should be adopted for the prevention and punishment of infractions thereof. A careful study of the constitution and by-laws of our state organization leads one to the conclusion that the only censorial authority over its members lies in the county society. Dissatisfaction occasionally arises because in a few instances when charges of unprofessional conduct have been tried and there was a good deal of personal feeling, the decision seemed to have been determined by the relative numbers of members who were friends of the accused and those who were his unfriends. Any decision in these cases can be appealed to the council and "its decision shall be final," but there is no way to enforce its decision. The by-laws provide that "Each county society shall judge of the qualifications of its own members." It is also provided that "county societies are the only portals of entry to this society and to the American Medical Association." In view of these provisions the council seems to have properly concluded that it had no authority to compel a county society to expel a member or to reinstate one it had already expelled. The American Medical Association gave to its judicial council "jurisdiction on all questions of ethics and in the interpretation of the laws of the organization." Apparently with the idea of giving it authority to enforce its decisions the house of delegates, in 1928, adopted the following: "The house of

delegates shall have the power to discipline or expel a member of the American Medical Association or a fellow of the scientific assembly on recommendation of the judicial council." There is no question but it has the right to discipline or expel a fellow, but a study of the laws relating to membership raises a doubt if the house of delegates of the American Medical Association has any more right to expel, or compel a county society to expel a member, than has the house of delegates of a state society. The American Medical Association "is a federacy of its constituent associations" and its "constituent associations are those state and territorial medical associations which are, or which may hereafter be, federated to form the American Medical Association, in accordance with this Constitution and By-laws."

"Component societies are those county or district medical societies contained within the territory of, *and chartered by the respective constituent associations.*" The county society being the only portal of entry for membership in the state society and the American Medical Association and the sole judge of qualifications of members; and the state society being the only contact between the American Medical Association and the members, it would seem that the judicial council can only secure the disciplining or expulsion of a member through the state society. But in this state neither the council or house of delegates has authority to compel a county society to expel or reinstate a member who has been expelled. However, it is authorized to "revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution and By-laws." It would, however, be a rare circumstance that would drive the house of delegates to such an extremity.

A study of the intimate history of the

organization will show that the county societies have been more zealous guardians of the dignity and honor of the profession than have the state societies or the Association. A study of the intimate history of this society since its reorganization will show that the small county societies are more critical of the professional conduct of their members, as a rule, than are the large ones.

A county society is more competent to judge the personal and professional qualifications of its members and those who seek membership than is any official body of a state society or of the American Medical Association. There was intelligent foresight displayed in the decision of those responsible for the plans of reorganization to place such full control of membership in the hands of the county societies, especially in an association so loosely organized as ours. And there has as yet been no satisfactory reasons advanced for disturbing this arrangement.

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**CHIPS**

Reid, W.J.S., in the *Lancet*, May 4, reports the results of the treatment of 164 cases of tabes with a method of his own. All cases that have had no thorough antisyphilitic treatment are first treated with the newer remedies until the W.R. is weak or negative. Otherwise the cases of tabes are all treated according to his method of "reinforcement drainage." An intravenous injection of one of the arsenical group is given. Within ten minutes a lumbar puncture is done with the patient in the sitting position and as much cerebrospinal fluid slowly withdrawn as possible, 50 c.c. or more. The patient is allowed to lie down for six hours, then sent home and put to bed for twenty-four hours. This treatment is repeated five times once every two weeks with one intravenous injection without drainage between times. The theory he offers for this method is that by reducing the pressure on the fluid side of the choroid plexus and increasing the con-

centration of arsenical bodies on the somatic side of the plexus, the fluid, which has to be regenerated quickly, might be expected to contain a larger amount of the arsenical body than otherwise. The series of treatments is repeated several times with increasing intervals during which antisyphilitic treatment, mercury or iodides, is given. The general condition of patients is improved materially. The W.R. was reduced in all cases in the fluid. There was increase in weight and improvement otherwise.

There is a chronic inflammatory condition of the joints and periarticular tissues, characterized in the earlier stages by migratory swelling and stiffness of the joints and in the later stages by more or less deformity and ankylosis; variously described as rheumatoid arthritis, arthritis deformans or chronic infectious arthritis. Under the latter name, Cecil, Nicholls and Stainsby report the results of their study of seventy-eight cases, in *Archives of Internal Medicine*, May, 1929. Blood cultures were made in all of these seventy-eight cases and in forty-eight of them a streptococcus was recovered. Of these forty-eight strains forty of them were culturally and biologically identical. Streptococci of an identical strain could sometimes be cultivated from one of the affected joints of the same patient and could also sometimes be isolated from a focus of infection in the same patient. When this strain of streptococcus was injected intravenously into rabbits a chronic nonsuppurative polyarthritis was produced with histologic changes identical with those observed in the joints of patients afflicted with the disease.

A case of diabetes insipidus in a nine year old child treated with solution of pituitary dropped in the nose is reported by Mettel in the *American Journal of Diseases of Children*, August, 1929. At the beginning of treatment the child weighed thirty-eight pounds and the output was 4800 c.c. in twenty-four hours and the intake 3200 c.c. of fluid. Pituitary was first administered intramuscularly and the output and intake reduced to 1600 c.c. and 1500 c.c. respectively. When



the patient went home and the injections were discontinued the polyuria and polydipsia promptly returned. She was returned to the hospital and under the same treatment the output and intake again returned to normal and in five months she had gained twenty-three pounds. She was then given 15 minims of obstetric solution of pituitary, dropped through the nose into the nasopharynx, four times a day. Under this method of treatment the output and intake was maintained at the normal and she continued to gain in weight. There was a total gain of forty-two pounds in one-and-a-half years.

Young, J. H., reports a method of treating ulcers of the leg with solutions of magnesium sulphate in the *Lancet*, May 11. His cases were in a poor-law hospital and the ulcers had become callous and were of several years standing. The treatment consisted in confining the patients to bed with the foot of the bed elevated and applying soaks of a five to ten per cent solution of magnesium sulphate. These soaks were renewed three times a day. The author claims that complete healing occurred in more than eighty per cent of the cases treated. Among those described as cured was one that was definitely syphilitic, and another that the pathologist's report showed to be tuberculous. Improvement was noted promptly after beginning the treatment. In a few days pus disappeared and granulations began to form.

### PERSONALS

Dr. George M. Gray, treasurer of our state society, who underwent a major operation the latter part of June, has fully recovered and is again on the job.

Dr. J. W. Randall has begun the construction of a new twelve bed hospital in Marysville.

Dr. J. M. Wright who practiced for twenty-five years in China has located at Denison, Kansas, where he is doing a general practice.

### MEDICAL SCHOOL NOTES

Dr. Sam H. Ferguson, 1924, is now doing G. U. Surgery in the Roosevelt Clinic at Seattle, Washington.

Clark C. Goss, 1923, is practicing in Seattle, Washington.

Dr. Byron J. Ashley, 1924, during the past year has been resident on Nose and Throat Service at the University of Pennsylvania. During the coming year he will be on the staff of the Doernbecher Childrens' Hospital, Portland, Oregon.

At the annual meeting of the American Medical Association at Portland, Oregon, July 8th to 12th, Dr. C. B. Francisco was appointed chairman of the orthopaedic section and Dr. Thomas G. Orr, vice chairman of the surgical division.

Dr. Cora Snyder, 1926, was married to Mr. Clarence E. Crews, Robinson, Kansas, July 17.

Dr. Frances Rosenthal, 1927, recently visited the Bell Memorial Hospital. Dr. Rosenthal is located at the State Hospital, Fergus Falls, Minnesota.

Dr. Earl C. Padgett talked on "The Repair of Cleft Palates After Unsuccessful Operations" at the meeting of the A.M.A., July 10th, at Portland, Oregon. Dr. Neff also read a paper on "Individual Assignments of Special Pediatric Subjects During the Senior Year" at this meeting.

Dr. Harold O'Donnell, 1926, recently visited at the Bell Memorial Hospital. Dr. O'Donnell is on his way to Ellsworth, Kansas.

Dr. K. P. Hoel, '29, Wisconsin University, is interning at the Bell Memorial Hospital. Dr. O. S. Randall, Oklahoma University Hospital, is Resident in Medicine and Surgery at the Bell Memorial Hospital.

Dr. W. A. Myers, assistant professor in medicine, recently returned from a European tour. Dr. Myers took some post-graduate work in Vienna, while away.

### SOCIETIES

#### RUSH-NESS COUNTY SOCIETY

The Rush-Ness County Medical Society met in Bison, August 15, at the office of Dr. N. W. Robinson. The meeting had been postponed from August 8, on account of rain and bad roads. Dr. Russell presided and after the reading of

the minutes, applications for membership were received from Dr. F. D. Fagen of Brownell and Dr. J. A. Blount of Burdett. The applicants were unanimously elected to membership.

Dr. L. A. Latimer of Alexander presented a paper on "Eye Injuries in General Practice" and Dr. W. S. Grisell of Ransom presented a paper on "Rectal Surgery in General Practice." A general discussion of both papers followed.

It was decided that a part of the evening at our future meetings be devoted to a scientific program. It was agreed to send some flowers and a letter of sympathy and hope for a speedy recovery to Dr. D. H. Northrup of Otis who has recently undergone an operation at the Mayo Clinic. The next meeting will be held at Dr. Latimer's Hospital at Alexander, probably sometime the last of September, the date to be fixed by the Secretary, according to the condition of the roads and weather. A lunch was served. There were present: Drs. Smith, Robinson, Latimer, Grisell, Fagen, Russell, Atwood, Blount and Singleton. Dr. W. J. Keough a dentist of McCracken, was a guest.

W. SINGLETON, Secretary.

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### **The Kansas City Annual Fall Clinical Conference of the Kansas City Southwest Clinical Society**

In this issue of the Journal there appears a condensed program of the Kansas City Southwest Clinical Society's seventh annual clinical conference to be held at Kansas City, Missouri, October 7 to 11, inclusive. Seldom has there been such an array of distinguished guests on a program as is noted in this meeting and this seventh conference of this organization is expected to be the biggest and best it has ever had.

The Clinical Society was organized in 1922 for the purpose, as set forth in its Constitution, (1) "To promote, encourage and develop the educational advantages of the clinical material of Kansas City that they may be available throughout the year to visiting physicians," and (2) "to hold an annual clinical conference which will demonstrate and emphasize the progress of medicine throughout

the world for the benefit of physicians and surgeons of the Southwest." During these past seven years the Kansas City Southwest Clinical Society has enjoyed a most successful and enviable career and it can conscientiously boast of its great progress and growth.

A new feature of the meeting this year will be the Post-Graduate Courses to be given daily. Special class rooms are being prepared and the instructors will be drawn from the distinguished guests and membership of the Society. Every visitor can receive a complete Post-Graduate training in his particular specialty.

Two special sessions should be noted, namely, that of the joint meeting with the Kansas City Eye, Ear, Nose and Throat Society on Tuesday evening with Dr. Finmoff of Denver, Dr. Jackson and Dr. McCrae of Philadelphia as the principal speakers; and that of Thursday evening, a joint meeting with the American Committee for the Control of Rheumatism. The subject of arthritis which is to be discussed by the committee at this meeting should be most interesting and instructive.

The usual clinics at the Allied Hospitals will be held each morning and the ever popular Round Table Luncheons with short addresses by distinguished guests will be held each noon.

Plenty of entertainment has been provided, the Smoker on Tuesday evening, the Alumni Dinners on Wednesday evening, the Golf Dinner on Friday evening, in fact nothing has been neglected in trying to make the entire meeting the most profitable and instructive of any meeting held in the Southwest.

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### **DEATHS**

Andrew G. Anderson, Salina, aged 50, died August 13 of food poisoning. He graduated from the St. Louis College of Physicians and Surgeons in 1898. He was on the staffs of Asbury Protestant Hospital and St. John's Hospital. He was a member of the Society.

John Calvin Klepinger, Rosedale, aged 59, died August 8 of cerebral hemorrhage. He graduated from the College of Physicians and Surgeons, Chicago, in 1897. He



was a member of the Kansas Medical Society.

Charles B. Aplin, Solomon, aged 59, died April 24, of cerebral hemorrhage. He graduated from Columbus Medical College in 1892. He was a member of the Society.

Lewis N. Plummer, Muscotah, aged 80, died of heat prostration. He had practiced in Muscotah for more than fifty years.

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**Abstract of the Proceedings of the House of Delegates at the Portland Session of the American Medical Association, July 8-12, 1929**

The Eightieth Annual Session of the American Medical Association was held in Portland, Oregon, July 8 to 12, 1929.

The House of Delegates convened at 10:00 a. m., July 8, and was called to order by the Speaker, Dr. F. C. Warsnhuis of Michigan.

The minutes of the Seventy-Ninth Annual Session were approved as printed. The annual addresses of the speaker, the president and the president-elect were heard by the house and referred to the reference committee on reports of officers. These addresses appeared in The Journal of the American Medical Association for July 20, 1929. Reports of the board of trustees, of the secretary, of councils and of other standing committees were submitted to the House and referred to reference committees.

That part of the report of the board of trustees dealing with the need for a new building to house the activities of the association was referred to a special committee appointed by the speaker on authorization of the house.

**HISTORY OF THE AMERICAN MEDICAL ASSOCIATION**

Dr. William Allen Pusey, delegate from Illinois, submitted a resolution providing for the appointment of a committee by the board of trustees to direct the preparation and publication of a comprehensive history of the association. This resolution, having been referred to the board of trustees, was recommended for adoption and the recommendation was approved by the house of delegates.

**PRACTICE BY CORPORATIONS AND OTHER GROUPS AND THE RELATIONSHIP OF PHYSICIANS THERETO**

Dr. William Allen Pusey, delegate from Illinois, presented a resolution providing that the judicial council of the association be asked to present to the house of delegates at the annual meeting in 1930 a comprehensive statement for the guidance of the American Medical Association concerning the practice of medicine by corporations, by clinics, by philanthropic organizations, by industrial organizations, by demonstrations and by similar organizations, and concerning the relationship of physicians thereto.

This resolution was considered by the house of delegates in executive session. The resolution was adopted.

**HOME FOR INDIGENT PHYSICIANS**

Dr. J. Norman Henry of Pennsylvania submitted the report of a special committee appointed to study the need for the establishment of a home for needy physicians. This report was referred to the board of trustees and was recommended for adoption. After discussion by several delegates, the recommendations of the board of trustees were approved, and the report of the committee adopted. The report of the committee advised against the establishment by the association of a home or homes for indigent physicians and expressed the opinion that "it is not, nor should it be, a function of the American Medical Association at this time to undertake the care of indigent physicians in any way."

**LISTS OF PHYSICIANS IN CLASSIFIED TELEPHONE DIRECTORIES**

Dr. G. Henry Mundt, delegate from Illinois, submitted a resolution providing that when publishers of classified telephone directories impose a charge for listing the names of ethical physicians in such directories, component county medical societies of the American Medical Association be advised to discontinue such listings in classified directories. The reference committee on legislation and public relations, to which this resolution was referred, recommend-

ed the adoption of the resolution, and the recommendation of the reference committee was approved by the house of delegates.

#### ENDORSEMENT OF THE METHODS OF THE DEPARTMENT OF COMMERCE IN THE SELECTION OF MEDICAL EXAMINERS

Dr. Albert Soiland, delegate from California, submitted a resolution providing that the American Medical Association should endorse "the medical work of the Department of Commerce, its methods of physical examination and its method of selection of medical examiners, and urge that the same high standards be continued and offers the support of the American Medical Association in furthering the specialty of aviation medicine." This resolution, referred to the reference committee on hygiene and public health, was favorably reported and was adopted by the house of delegates.

#### DANGERS OF ILLUMINATING GASES AND GASES USED IN ELECTRICAL REFRIGERATION

Dr. J. W. Van Derslice, delegate from Illinois, submitted a resolution providing for the appointment by the board of trustees of a committee to study and report on the menaces to health and to life from carbon monoxide gas as a constituent of illuminating gas and as a by-product of the combustion of gasoline in automobiles; on the dangers of gases used in electrical refrigeration, and on steps necessary to be taken for the protection of the public. This resolution, referred to the reference committee on hygiene and public health, was adopted by the house.

#### TEACHING OF OBSTETRICS

Dr. James R. Bloss, delegate from West Virginia, presented a resolution providing that the council on medical education and hospitals be asked to investigate the present teaching of obstetrics in the United States and to seek readjustment of the curriculum so that hours allotted to teaching of obstetrics be equal to those allotted to the teaching of surgery. The reference committee on medical education recommended the amendment of the resolution as pre-

sented by Dr. Bloss so that it would provide that the house of delegates request the council on medical education and hospitals to investigate the present teaching of obstetrics "and make such recommendations for increasing the clinical teaching hours of obstetrics as the results of its investigations may warrant." On motion of Dr. Mundt of Illinois, seconded by Dr. Mongan of Massachusetts, the resolution was re-referred to the reference committee on medical education. At a later session this reference committee recommended the adoption of the following resolution:

Whereas, The time allotted for the teaching of obstetrics in the curriculums of the several medical schools has been cut down and is inadequate to drill the student thoroughly in this important major, be it

Resolved, That the house of delegates request the council on medical education to investigate the present teaching of obstetrics in this country and make such recommendations for increasing the clinical teaching hours of obstetrics as the results of its investigations may warrant.

The resolution as amended by the reference committee was adopted by the house of delegates.

#### AMENDMENTS TO BY-LAWS

Dr. E. C. Thrash, delegate from Georgia, proposed the following amendment to the by-laws: Amend Chapter XIX of the By-laws by substituting the words "two-thirds" for the words "three-fourths" so as to permit the amendment of the By-laws of the association by a two-thirds vote of the house of delegates. On recommendation of the reference committee on amendments to the Constitution and By-laws, the proposed amendments was adopted.

#### ADVERTISING HOSPITALS

Dr. Burt R. Shurly, delegate from the section on laryngology, otology and rhinology, presented a resolution providing that inasmuch as some hospitals, municipal and otherwise, have advertised in the daily press "and have given to the public stories of their special ex-



cellence and efficiency as compared with other hospitals," such advertisements be collected by the council on medical education and hospitals and that the "question of hospital advertising be given due consideration and reported to the house of delegates at the next annual meeting and the rating of hospitals be affected according to the unethical advertising published."

The reference committee on medical education, to which this resolution was referred, recommended the amendment of the resolution as introduced by Dr. Shurly so that it would read as follows:

Resolved, That any physician observing such advertisements be requested to send them to the council on medical education and hospitals for its information and use in the rating of hospitals.

The resolution as amended was adopted.

#### HONORARIUMS TO SECTION SECRETARIES

Dr. Burt R. Shurly, delegate from the section on laryngology, otology and rhinology, submitted a resolution providing that the sum of \$100 shall be paid to each section secretary in addition to the honorarium now paid "to cover the actual expenses involved in the preparation of the program and the presentation of the same at the annual meeting." The board of trustees, to which this resolution was referred, reported that no statement had come to the attention of the board indicating that the honorarium now paid section secretaries is insufficient, and that the board of trustees stands ready to make necessary and proper adjustments. The report of the board of trustees was approved by the house of delegates.

#### SUPPLEMENT TO THE JOURNAL

Dr. Burt R. Shurly, delegate from the section on laryngology, otology and rhinology, submitted a resolution providing that the board of trustees be authorized to prepare a supplement to The Journal, in which papers read before sections and not accepted for regular publication in The Journal should appear. This resolution was reported unfavorably by the board of trustees, to whom it had been referred, and the house of

delegates adopted the recommendation of the board.

#### DIGEST ON PHYSICAL THERAPY

Dr. Joseph F. Smith, delegate from Wisconsin, presented a resolution providing that the board of trustees be requested to have prepared by the council on physical therapy a digest setting forth the basic principles underlying the employment of physical agents and their mode of action on living tissue, and to publish this digest in a form which would be available to physicians. The board of trustees reported to the effect that a handbook of the kind provided for in the resolution is already in the course of preparation.

#### EXPENSES OF DELEGATES

Dr. Frank Smithies, delegate from the section on gastro-enterology and proctology, submitted a resolution providing that the board of trustees be directed to defray expenditures of delegates for transportation, housing and maintenance during attendance on each annual session. This resolution was referred to the board of trustees, which recommended that the resolution be not adopted. This recommendation was approved by the house of delegates.

#### NEEDS OF SMALL HOSPITALS

Dr. T. O. Freeman, delegate from Illinois, submitted resolutions providing that the council on medical education and hospitals be ready to make a survey of the needs of smaller hospitals, to render all possible assistance to such institutions desirous of improving their system of records and their services to the public, and to offer its assistance to state registration departments to the end that such departments may secure such aid as they desire in connection with their classification of accredited hospitals. The reference committee on medical education, to which this resolution was referred, reported to the house of delegates that in its opinion the investigation begun several years ago and now being carried on by the council of medical education and hospitals would fulfill all the objects of the resolution, and that the reference committee be-

lieved that the council stands ready to give all possible assistance to small hospitals in solving their problems. The reference committee recommended that the resolution be not adopted, and this recommendation was approved by the house of delegates.

#### DIRECTION OF RED CROSS NURSES BY CULTISTS

Dr. J. C. Litzenberg, delegate from Minnesota, submitted a resolution adopted by the Minnesota State Medical Association, disapproving the policy of the American Red Cross in officially authorizing Red Cross nurses to nurse patients under the care of cultists. The reference committee on legislation and public relations recommended that the American Medical Association disapprove any change in policy by the American Red Cross whereby the nurses of that organization would be available for service to patients under the care of cultists, and that the secretary of the association communicate with the proper officials of the American Red Cross and advise that organization of the attitude of the house of delegates. The recommendations of the reference committee were adopted.

#### NEW BUILDING

The special committee, to which that part of the report of the board of trustees dealing with the need for a new building for housing the activities of the association was referred, expressed its conviction that it is desirable for the association to have a building "that would be visible evidence of the dignity, importance and power of the association," and recommended that it should be left to the board of trustees to perfect plans for providing the building.

This committee also expressed the opinion that the subscription price of The Journal is now relatively greatly below the price of other journals that approximate it in extent and quality, and suggested that the board of trustees should consider the question of increasing the subscription of The Journal.

A third recommendation of the committee was to the effect that it would be appropriate for the board of trustees, in a building program, to solicit memorial

contributions, both large and small, from members of the association. The committee expressed its conviction that as the association shows increased evidence of strength and permanence it will gradually become the recipient of an increasing number of memorial contributions.

The report of the special committee was adopted by the house of delegates.

Later in the proceedings, Dr. William Allen Pusey, delegate from Illinois, introduced a proposed amendment to the By-laws providing that the subscription price of The Journal shall not exceed \$8.00. This proposed amendment was adopted by the house, and the board of trustees is thereby authorized to increase the subscription price of The Journal to a sum not in excess of \$8.00 a year.

#### PERIODS OF PRACTICAL EXPERIENCE FOR MEDICAL STUDENTS

Dr. E. J. Goodwin, delegate from Missouri, presented a resolution that had been adopted by the Missouri State Medical Association providing that medical schools be encouraged to arrange for periods of practical experience for students with practitioners of high standing, preferably in rural communities, and that the council on medical education and hospitals be instructed to consider the plan proposed by the Missouri State Medical Association and, if the plan is found to be feasible and beneficial, the council be urged to encourage medical schools to "inaugurate suitable methods for providing these vacation periods of practical experience for their students." The reference committee on medical education reported favorably on this resolution, and it was adopted by the house of delegates.

#### SAFETY OF MILK FOR HUMAN CONSUMPTION

Dr. A. T. McCormack, delegate from Kentucky, submitted a resolution providing that "it is the sense of the American Medical Association that the determination of measures necessary for insuring the safety of milk for human consumption is a duty and function of the medical profession through the duly constituted public health officials of this country." The reference committee on



hygiene and public health recommended the adoption of the resolution and this recommendation was approved by the house of delegates.

#### COMMITTEE ON MILITARY AFFAIRS AND NATIONAL DEFENSE

Dr. H. C. Mallory, delegate from the U. S. Army, presented a resolution providing for the appointment by the board of trustees of a special permanent committee to be known as the committee on military affairs and national defense, to which shall be referred matters pertaining to national defense and military preparedness. The adoption of this resolution was recommended by the board of trustees and this recommendation was approved by the house of delegates.

#### NATIONAL DEFENSE ACT OF 1920

Dr. Holman Taylor, delegate from Texas, introduced a resolution providing that the American Medical Association, through its house of delegates, go on record as heartily approving the national defense act of 1920. The reference committee on legislation and public relations reported the resolution favorably, and it was adopted.

#### INCREASED TARIFF ON SURGICAL INSTRUMENTS

Dr. Albert Soiland, delegate from California, submitted a resolution providing that the house of delegates record its opposition to the passage of a bill providing for increased tariff on surgical instruments, x-ray equipment, vacuum tubes, valve tubes and scientific glassware. The board of trustees recommended the adoption of the resolution, and the house of delegates approved this recommendation.

#### STANDARDS OF PHYSICAL FITNESS OF AUTOMOTIVE OPERATORS

Dr. H. C. Macatee, delegate from the District of Columbia, presented a resolution setting out that relatively few accidents occur because of defects of sight and hearing and providing that the house of delegates "consider the advisability of amending the present standards of physical fitness of automotive operators, adopted by this association, by the adoption of standards of mental and

moral fitness to be recommended for adoption by the several states as a condition for issuing licenses to operate motor vehicles, and that this resolution be referred to a special committee for consideration and report at the next annual session." The reference committee on hygiene and public health recommended the adoption of the resolution. On motion of Dr. G. Henry Mundt, delegate from Illinois, the resolution was amended by deleting a statement in the preamble to the effect that relatively few accidents occur because of defects of sight and hearing. The resolution as amended was adopted.

#### MEDICAL EXPERT OPINION

Dr. Tom B. Throckmorton, delegate from the section on nervous and mental diseases, submitted the following resolution, which had been approved by that section:

Whereas, the house of delegates of the American Medical Association has previously expressed its dissatisfaction with the present status of medical expert opinion evidence and has expressed its approval of the efforts of the American Bar Association and of the various bar and medical societies to correct by remedial legislation and by changes in court procedure the present undesirable features of the introduction of such evidence, and

Whereas, The American Psychiatric Association and the National Crime Commission are devoting much study to the subject of such evidence, particularly as relates to psychiatric matters in criminal cases, with a view to improving procedure and

Whereas, The criminal law section of the American Bar Association has appointed a committee to collaborate with a committee of the American Psychiatric Association in formulating plans for bringing about a betterment of the present undesirable situation, and

Whereas, Such efforts are of vital interest and importance to the entire medical profession, be it therefore

Resolved, That the house of delegates of the American Medical Association express its continued interest in the cor-

rection of the abuse of medical expert opinion evidence, and that it offer to the American Bar Association, the American Psychiatric Association, and the National Crime Commission, the various state and county medical and bar associations, and such other reputable organizations as are actively pursuing efforts directed toward such correction the assistance and cooperation of the American Medical Association in promoting the passage of appropriate legislation and in bringing about suitable changes in court procedure with reference to such evidence, and be it further

Resolved, That the house of delegates approves the principle of securing in the case of all capital charges and in the case of as many other criminal charges as the psychiatric facilities of the state will permit an impartial and routine mental examination of the defendant in advance of the trial as a means of obviating the contentious introduction of partisan testimony, and that it approves further the principle of removing as far as possible the question of sanity from the trial itself, reserving the employment of psychiatric data for a post-trial inquiry to determine what treatment is appropriate to the convicted person, and be it further

Resolved, That a copy of this resolution be forwarded to the American Bar Association, the American Psychiatric Association, and the National Crime Commission.

On motion of Dr. Throckmorton, seconded by Dr. A. T. McCormack, delegate from Kentucky, and after discussion by various members of the house, these resolutions were adopted by the house of delegates.

#### RESOLUTION FROM SECTION ON DERMATOLOGY AND SYPHILOLOGY

Dr. F. W. Cregor, delegate from the section on dermatology and syphilology, submitted resolutions providing that treatment for hyper-trichosis by the tricho system and by allied systems employing radiation be condemned as highly dangerous to the patient, and "that all cases presenting the effects of this type of treatment and seen by members

of the medical profession be reported to the bureau of investigation of the American Medical Association." The resolutions were adopted.

#### AMENDMENT TO THE PRINCIPLES OF MEDICAL ETHICS

The judicial council, in its report to the house of delegates, recommended that section 3, article VI, chapter II of the Principles of Medical Ethics be amended by substituting the following:

#### COMMISSIONS

Sec. 3.—When a patient is referred by one physician to another for consultation or for treatment, whether the physician in charge accompanies the patient or not, it is unethical to give or to receive a commission by whatever term it may be called or under any guise or pretext whatsoever.

This recommendation of the judicial council was adopted by the house of delegates, and the Principles of Medical Ethics were so amended.

#### MESSAGE FROM PRESIDENT OF WOMAN'S AUXILIARY

Dr. J. H. J. Upham, member of the board of trustees, presented a report from the woman's auxiliary to the house of delegates submitted by its president, Mrs. Allen H. Bunce of Atlanta, Georgia, and this message was accepted by the house and made a part of its records.

#### ELECTION OF OFFICERS

The following officers were elected:

President-Elect, William Gerry Morgan, Washington, D. C.

Vice President, Ernst A. Sommer, Portland, Oregon.

Secretary, Olin West, Chicago.

Treasurer, Austin A. Hayden, Chicago.

Speaker of the House of Delegates, F. C. Warnshuis, Grand Rapids, Michigan.

Vice Speaker of the House of Delegates, Albert E. Bulson, Fort Wayne, Indiana.

Member of the Board of Trustees, D. Chester Brown, Danbury, Connecticut, reelected.

Member of the Board of Trustees, Allen H. Bunce, Atlanta, Georgia, to succeed E. H. Cary, Dallas, Texas.



The President, Dr. M. L. Harris, made the following nominations for standing committees:

Judicial Council, James B. Herrick, Chicago.

Council on Medical Education and Hospitals, M. W. Ireland, Surgeon General, U. S. Army; James S. McLester, Birmingham, Alabama.

Council on Scientific Assembly, Lewis H. McKinnie, Colorado Springs, Colorado.

These nominations by the president were confirmed by the house of delegates.

#### HONORARY FELLOW

Dr. Josef Jadassohn of Breslau, Germany, was nominated for honorary fellowship by the section on dermatology and syphilology, and this nomination was approved by the council on scientific assembly. Dr. Jadassohn was elected to honorary fellowship by the house of delegates.

#### PLACE OF 1930 ANNUAL SESSION

Detroit, Michigan, was selected as the place for holding the next annual session of the American Medical Association in 1930.

#### BOOKS

The Collected Papers of the Mayo Clinic and the Mayo Foundation for 1928, Volume XX. Edited by Mrs. M. H. Mellish, Richard M. Hewitt, M. D., and Mildred A. Felker, B. S. Octavo volume of 1197 pages with 288 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$13.00 net.

This makes twenty volumes of collected papers that have been published from the Mayo Clinic and the Foundation. These papers cover a wide field, they are carefully selected and arranged, and since they represent the most modern thought in medicine and surgery an up to date library is hardly complete without them.

A Manual of Diseases of the Nose, Throat and Ear. By E. B. Gleason, M.D., LL. D., Professor of Otology, Graduate School of the University of Pennsylvania. Sixth Edition, thoroughly revised. 12mo of 617 pages with 262 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth \$4.50 net.

This little text book has now been revised six times. Some changes have been

made in the text, some matter has been omitted and some new matter added. It meets fairly well the purpose of a hand book for students and general practitioners.

The Nose, Throat and Ear and their Diseases: In original contributions by American and European authors. Edited by Chevalier Jackson, M.D., professor of bronchoscopy and esophagoscopy in the University of Pennsylvania, in the Jefferson Medical College, and in the Graduate School, University of Pennsylvania, and George M. Coates, M.D., Professor of Otology, Graduate School, University of Pennsylvania. Assisted by Chevalier L. Jackson, M.D., assistant in bronchoscopy and esophagoscopy, University of Pennsylvania. Octavo volume of 1177 pages with 657 illustrations and 27 inserts in colors. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$13.00 net.

This should be the outstanding work on this subject at this time. There are seventy-four contributors and of these, nine are from other countries. All of the contributors have established titles to recognition in this field of medicine, and they have been chosen to write on those subjects on which they are recognized authorities. An effort is shown to present in every department the opinions of today.

American Illustrated Medical Dictionary. A complete dictionary of the terms used in medicine, surgery, dentistry, pharmacy, chemistry, nursing, veterinary medicine, biology, medical biography, etc. By W. A. Newman Dorland, M.D., member of the committee on nomenclature and classification of diseases of the American Medical Association. Fifteenth edition, revised and enlarged. Octavo of 1427 pages, 525 illustrations, 107 of them in colors, Philadelphia and London: W. B. Saunders Company, 1929. Flexible binding, plain \$7.00 net. Thumb index \$7.50 net.

This dictionary has been reedited by the editorial staff of the American Medical Association under the direction of Dr. Morris Fishbein. Several thousand of the newest terms have been added. Recognition is given also to some of the terms and expressions in common use. We find, for instance, "acute abdomen" defined as any acute condition within the abdomen demanding immediate operation. We failed to find "chronic appendix" or "acute ear." A beginner in the study of medicine has always found it necessary to use the dictionary more than the text book he attempted to read. but after a time he acquired a vocabulary

that permitted him to read intelligently with but little interruption to look up definitions. In these times no one has a vocabulary large enough to permit an uninterrupted perusal of a scientific article on any medical subject unless he has made a special study of the subject under discussion. One can get very little out of the current literature without the aid of a dictionary that is up to date.

**Surgical Pathology.** By William Boyd, M.D., Professor of Pathology, University of Manitoba, Winnipeg, Canada. Second edition, revised and reset. Octavo of 933 pages, with 474 illustrations and 15 colored plates. Philadelphia and London: W. B. Saunders Company, March 1929. Cloth, \$11.00 net.

In this edition much of the text has been entirely rewritten. Much new matter has been added and many new illustrations appear. The chapters on thyroid and the stomach have been rewritten. The section on malignant tumors of bone has also been rewritten. A number of subjects are treated for the first time in this edition. In fact the revision is unusually complete so that practically a new book has been produced.

**Physical Examination and Diagnostic Anatomy.** By Charles B. Slade, M.D., formerly chief of clinic in general medicine, University and Bellevue Hospital Medical School, New York. Fourth edition, thoroughly revised. 12mo of 196 pages with 43 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$2.00 net.

A few changes and additions have been made in this revision. This little text book was designed to teach the methods used in examination and the signs of disease to be observed or elicited. It is not an elaborate work on diagnosis. It will be convenient to have at hand for quick reference.

**The Surgical Clinics of North America.** (Issued serially, one number every other month.) Volume 9, number 4. (Mayo Clinic Number—August 1929) 208 pages with 72 illustrations. Per clinic year (February 1929 to December 1929). Paper \$12.00; cloth, \$16.00. Philadelphia and London: W. B. Saunders Company.

E. Starr Judd appears as principal or associate in four of the clinics reported in this number. A number of interesting cases are reported from the clinic of Walters dealing particularly with stones in the ureters and stones in the bile ducts and gall-bladder. A series of very inter-

esting cases is also reported from the section on orthopedic surgery. The reports presented in this number cover a wide field and some new points are brought out.

**Principles and Practice of Electrocardiography** by Carl J. Wiggers, M.D., professor of physiology in the School of Medicine, Western Reserve University. Published by C. V. Mosby Company, St. Louis. Price \$7.50.

This book should be a valuable accession to the literature of cardiology. In it the author attempts to make clear the principles upon which electro-cardiographs are constructed and describes several machines and their differences. Of more importance to the clinician is his explanation of the principles upon which records are to be interpreted. Finally he explains the clinical significance of various deviations from the normal records.

**The Treatment of Fractures** by Lorenz Boehler, M.D., chief surgeon Vienna Accident Hospital. Translated by M. E. Steinberg, M.D. Published by Wilhelm Maudrich, Vienna. Price \$5.00.

The translator expresses much admiration for the work being done by Dr. Boehler and feels that the results he is getting justifies this effort to put his methods and technic in the treatment of fractures into the hands of the profession in this country. Dr. Boehler has had a wide experience and has advanced some original methods of treatment.

**The Challenge of Chronic Diseases** by Ernst P. Boas, M.D., attending physician, and Nicholas Michelson, M.D., adjunct physician, Montefiore Hospital for Chronic Diseases. Published by the McMillan Company, New York. Price \$2.50.

The care of the chronically sick person is a problem and it is this problem these authors discuss. There is no place for the proper diagnosis, treatment and care of the chronic case. Those institutions which provide for chronic patients such as homes for incurables, almshouses, city infirmaries, homes for the aged, etc., are seldom fitted to supply the medical needs of such cases.

**The Clinical Aspects of Venous Pressure** by J. A. E. Eyster, B.S.C., M.D., professor of physiology, University of Wisconsin, etc. Published by the MacMillan Company, New York. Price \$2.50.

This is a very interesting study of



venous blood pressure, and how it is affected by various conditions of the circulation. Clinical observations are reported which suggest the importance of frequently recorded venous pressures. Several methods are also described for making the tests and the author describes in detail an instrument devised by himself for the purpose.

The History of Hemostasis by Samuel Clark Harvey, M.D., professor of surgery, Yale University, etc. Published by Paul B. Hoeber, Inc., New York. Price \$1.50.

To one who has the time and the incentive it is fascinating to bring up from the dim past the beginnings of knowledge along any line. It is a privilege to be permitted to read the results of such efforts after they have succeeded. While this little historical sketch is devoted to hemostasis the author has managed to include numerous other very interesting facts concerning the history of medicine. The story as he presents it is a very readable one from which much valuable information may be gained.

Osteomyelitis and Compound Fractures and Other Infected Wounds by H. Winnett Orr, M.D., chief surgeon of the Nebraska Orthopedic Hospital, etc. Published by C. V. Mosby Company, St. Louis. Price \$5.00.

In this book the author attempts to justify and describe his method for the treatment of infected wounds, especially of bones and joints. He summarizes his thesis as follows: The use of antiseptics in the treatment of infected wounds has been developed to the point of abuse. It seems that it is not generally known that infected wounds do heal without the application of antiseptic agents of any kind. Wounds, if properly protected, will heal consistently without daily dressings or irrigation with antiseptics in a way that is at once easier and better; and the important factor in securing these better results are primary asepsis or antisepsis when required, adequate drainage, immobilization of injured parts and protection of wounds against disturbance and reinfection.

An Introduction to the Study of Physic by William Heberden, and a prefatory essay by LeRoy Crummer. Published by Paul B. Hoeber, Inc., New York. Price \$2.00.

This manuscript written by William Heberden has not before been published. It is the property of LeRoy Crummer who in his prefatory essay describes his discovery of the manuscript in a book stall in London, his verification of its authenticity and the circumstances leading up to its publication. As an appendix there is added the essay in which Dr. Heberden first described angina pectoris. Those who are at all interested in medical history will appreciate this little volume.

Clinical Laboratory methods by Russell L. Haden, M.A., M.D., professor of experimental medicine, University of Kansas School of Medicine. Published by C. V. Mosby Company, St. Louis. Price \$5.00.

This is the third edition of this text book. A few important changes and additions have been made. Description of methods for the qualitative determination of acetone bodies in the urine has been omitted. Methods for the determination of indican in the blood have been added as has also the technic for the Kahn precipitation reaction. Those who are familiar with previous editions of Dr. Haden's work will welcome this one.

Gynecology, a text book of the diseases of women by Lynn Lyle Fulkerson, A.B., M.D., instructor in obstetrics and gynecology, Cornell University Medical School, etc. Published by P. Blakiston's Son & Company, Philadelphia.

The text deals with gynecology in both its medical and surgical aspects. Considerable attention is given to developmental anomalies and to the part played by the endocrine glands. Malpositions of the uterus are described with methods for correction. The whole subject is thoroughly covered. In the medical and surgical treatment the author has followed the leaders in this field. The work is well illustrated.

—R—

### Problems of Mechanical Refrigeration

UNITED STATES PUBLIC HEALTH SERVICE

Several deaths which have occurred recently in Chicago have been attributed to poisoning by methyl chloride which leaked from refrigerating systems. These have received wide publicity, and have caused apprehension, even among the users of refrigerating equipment entire-

ly unlike that to which the fatalities have been attributed. It is the purpose of this statement, authorized jointly by the Public Health Service, the Bureau of Standards, and the Bureau of Mines, to state the essential facts regarding this danger and to relieve any undue anxiety in the minds of those possessing household refrigerating systems.

All refrigerating systems in practical use depend for their operation upon the repeated gasification and condensation (sometimes by dissolving or "absorbing" in another substance) of a material which is technically called a "refrigerant." In most cases the refrigerant is confined under pressure in the refrigerating machine, and if it escapes from the system, becomes a gas which mixes with the surrounding air.

For many years the gas ammonia was almost the only refrigerant used. For technical reasons, other refrigerants have more recently been introduced and are now extensively employed. Sulphur dioxide and methyl chloride are the most important of these.

None of the three refrigerants mentioned, ammonia, sulphur dioxide or methyl chloride, can be breathed with impunity, but none are violent poisons when breathed for a short time in low concentrations. If the same amount of the three substances is considered, methyl chloride is the least poisonous of the three; but because their physiological effects are quite different it is hard to make a quantitative comparison. Sulphur dioxide and ammonia both have strong odors which are easily recognized and are so irritating that no one is likely to breathe much of them if escape is possible. Methyl chloride has a slight and rather pleasant odor, which probably would not awaken a sleeping person and might not be recognized by one who was awake. To this fact is to be attributed any greater hazard from methyl chloride than from other commonly used refrigerants.

Most of the trouble attributed to methyl chloride has occurred in connection with multiple refrigerating systems installed in apartment houses in which a single compressor delivers the refriger-

ant through tubes to the refrigerators in the several apartments. A large majority of the individual household refrigerators of the motor driven ("electric") type now in use employ sulphur dioxide as the refrigerant. Nearly all, if not all, of the domestic refrigerators, the operation of which depends upon supplying heat instead of mechanical compression, use ammonia. This class includes a few electric refrigerators of unusual type and all of the gas-fired refrigerators. The escape of the refrigerant from the more commonly used household refrigerating systems would, therefore, be at once made evident by its odor.

Newspaper headlines and statements to the effect that the fatalities in Chicago were caused by "gas refrigeration" without doubt had reference only to the fact that refrigerants are gases. "Illuminating" or fuel gas was in no way involved.

The high volatility of all practicable refrigerants makes it quite improbable that enough of these substances could be retained in food stored in the refrigerator to be harmful.

Methods for eliminating the danger from methyl chloride systems are being studied. It would be premature to say whether the end will be accomplished by replacing methyl chloride entirely by other refrigerants, by adding something which will give the refrigerant a sufficiently powerful odor, or by so improving the mechanical construction of the equipment that leakage will not occur where the gas might enter rooms in which people live.

It should be recognized that the number of serious accidents from household refrigerating systems has been small in comparison with the number of such systems in use, and improvements may be expected which will much reduce the small hazard that does exist.

—R—

#### **Prophylaxis and Early Treatment of Pneumonia**

The prospects for success in the treatment of any disease are admittedly greater, the earlier the patient presents himself for medical attention. This is particularly true in pneumonia. Cross



writes, "The prompt use of Optochin Base in suspected pneumonia should in our opinion be a routine procedure, not delaying its administration for signs of definite consolidation. Chill, temperature elevation, respiratory symptoms, and diffuse or limited moist rales are to be considered indications for this drug."

The bactericidal action of Optochin Base is directed specifically toward all types of the pneumococcus, so that its use renders unnecessary the preliminary typing of the organism. The adult dosage is 4 grains of Optochin Base by mouth with 5 oz. of milk every five hours, day and night, for three days. If additional liquid is required give more milk in preference to water. No other food or drink is to be given during the course of the Optochin Base. All other oral medication is contraindicated, but hypodermic medication may be employed as required.

—R—

### **Federal Court Rules on Drug Labels**

A far reaching decision on the labeling of medicinal preparations has been handed down by the U. S. Court of Appeals for the ninth circuit, say the officials of the food, drug and insecticide administration, of the United States Department of Agriculture.

According to the decision of the Court of Appeals, the use on labels of medicinal preparations of language which, when read literally, is not a statement of curative or therapeutic properties, but, owing to attendant circumstances, may be understood as such, brings these labels within the scope of the federal food and drugs act just as definitely as if direct statements appeared.

This decision was made upon appeal by the United States Government from a judgment entered in the District Court for the Western District of Washington, dismissing a case brought against certain medicinal preparations which, the government alleged, bore false and fraudulent therapeutic claims on the labels. The federal food and drugs act, under which this action was brought, is designed, among other things, to prevent the sale in interstate commerce of medicinal preparations bearing false and fraudu-

lent statements concerning their efficacy in treating disease.

The lower court dismissed the libel on the ground that it failed to allege facts sufficient to show a violation of the law, in that the statement on the labels to which the government took exception were not therapeutic or curative claims but were merely reports indicating that physicians had obtained favorable results from the use of the nostrum, each "report" being preceded by the statement "We have received many letters from physicians reporting."

The Circuit Court of Appeals, however, held that language such as that used would tend to engender a belief on the part of possible buyers that the use of the drugs would afford relief. "Unless we discredit their mental competency such, we must presume, was the intent and expectation of the proprietors," said the circuit court. "Their contention is that they have such letters or reports and that fact constitutes a competent defense, whatever may be the character of the drugs. But if, as is alleged, the drugs are worthless the proprietors cannot escape responsibility by hiding behind the phrase 'the doctors say.' Couched in such language undoubtedly the printed matter makes a more persuasive appeal to the credulity of sufferers from these diseases than if the representations thus implied were made directly upon the authority alone of the proprietors, and for that reason they are not less but more obnoxious to the law."

Furthermore, the court held that the following principle of construction set forth in an opinion of the Supreme Court rendered in a case against vinegar brought under the food and drugs act is conclusive in this case also:

"The statute is plain and direct. Its comprehensive terms condemn every statement, design and device which may mislead or deceive. Deception may result from the use of statements not technically false or which may be literally true. The aim of the statute is to prevent that resulting from indirection and ambiguity, as well as from statements which are false. It is not difficult to choose statements, designs and de-

vices which will not deceive. Those which are ambiguous and liable to mislead should be read favorably to the accomplishment of the purpose of the act."

—R—

### **Viosterol: Irradiated Ergosterol**

The demonstration that many food materials can acquire unique physiologic potencies when the products are subjected to the direct influence of ultraviolet rays is a contribution of recent scientific investigation. The effects of the irradiated substances within the body are identical with, or equivalent to, those that have been ascribed to vitamin D, the antirachitic food factor. The latter is known to induce the healing of rickets or to prevent the latter when suitable foods containing vitamin D, such as cod liver oil, are employed in a prophylactic way. Tetany and probably other diseases may be favorably influenced in a comparable manner. Ergosterol, a sterol widely present in small amounts in edible products, was shown to the "provitamin" or substance that acquired antirachitic potency after suitable irradiation. It was inevitable that a product possessing the remarkable action of irradiated ergosterol and readily obtainable should attract attention in the fields of therapy and prophylaxis; also, the danger of quackery follows in the wake of discovery, particularly when, as in the case of irradiated ergosterol, the product possesses enormous potency. To avert the almost inevitable confusion and to exercise a wholesome restraint over the exploitation of the new product, the Council on Pharmacy and Chemistry of the American Medical Association has followed its usual custom of adopting a common name, viosterol, for irradiated ergosterol. It has recognized two preparations of this substance, namely, viosterol in oil 100 D (N.N.R.), having one hundred times the antirachitic potency of a standard cod liver oil; and cod liver oil with viosterol 5 D (N.N.R.), being cod liver oil with the addition of viosterol and having five times the antirachitic potency of a standard cod liver oil. In announcing this action, the council publishes standards of identity, dosage, and suggestions for therapeutic use.

The use of products accepted for New and Nonofficial remedies, according to the advices of the council, is likely to avert any undesirable consequences from the use of this potent agent. (J.A.M.A., August 31, '29).

—R—

### **The Action of Digitalis in Heart Failure**

Clinicians have generally accepted the pharmacologic evidence that digitalis causes a more vigorous and larger ventricular contraction. But it is difficult to accept the view that a muscle such as the heart, which cannot rest after being overstimulated, is improved by being forced to beat harder. It has now been shown that the efficiency of the heart, or its capacity for doing a fixed amount of work with least oxygen consumption, varies inversely with its diastolic volume. It was shown further that digitalis causes the heart to decrease its diastolic volume while carrying a constant load. Thus, digitalis reduces the energy requirement of the heart or permits it to do more work with the same expenditure of energy. (J.A.M.A., August 7, '29.)

FOR SALE—Drug store in Kansas. An unusual location for doctor wanting to operate store in connection with practice. Very reasonable terms. Address A-534 care Journal.

WANTED—Active Medical Practice in Kansas. State terms. No real estate. A-532 care Kansas Medical Journal.

WANTED—Salaried Appointments for Class A physicians in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nation-wide connections enable us to give superior service. Aznoe's National Physicians' Exchange, 30 North Michigan, Chicago. Established 1896. Member The Chicago Association of Commerce.

### **REPRINTS**

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# THE JOURNAL

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### The Treatment of Undulant Fever With Vaccine—Report of Ten Cases

FRED E. ANGLE, M.D., Kansas City, Kan.

Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

During the past two years a large number of undulant fever cases caused by *Brucella abortus* (Bang) have been reported occurring in various sections of the United States. In these case reports there is little or no mention of treatment.

Osler<sup>1</sup> and Stitt<sup>2</sup> state that some observers have secured good results with vaccine therapy. Cumston<sup>3</sup> advocated the use of *B. melitensis* vaccine in doses of 0.25 to 1.0 c.c. every ten days in chronic cases of undulant fever due to this organism. Giuffre<sup>4</sup> used a similar vaccine both intravenously and intramuscularly with success. He did not believe that there were any contraindications for its use. The course of the disease in his treated cases were shortened markedly, the average duration being from 9 to 60 days. The average duration in 125 cases recently reviewed by Hardy<sup>5</sup> was four months.

Liege and Castarian<sup>6</sup> used *B. abortus* vaccine with success in three cases of *B. melitensis* infection after a stock vaccine of *B. melitensis* had failed. Prausnitz<sup>7</sup> observed that *B. abortus* vaccine in small doses seems to be a promising remedy. Keefer<sup>8</sup>, however, failed to secure any benefit with vaccine in one case of *B. melitensis* infection occurring in Baltimore.

Although the literature contains many references of beneficial results following vaccine therapy the opinion is prevalent that this method of treatment is of little or no value.

Other attempts at specific treatment have been tried after symptomatic treatment was found of no value. Awe and Palmer<sup>9</sup> used milk injections successfully in three cases. Todd<sup>10</sup> used 20 c.c. of 1

per cent mercurochrome intravenously with success in two cases.

Realizing the close relationship between contagious abortion in cattle and hogs and undulant fever in man, it was thought advisable to prepare a vaccine from pathogenic strains of bovine and swine *B. abortus*. Cultures were obtained from the Jensen-Salisbury Laboratories of Kansas City, Missouri. A vaccine was made using five pathogenic strains of bovine origin and one strain of swine origin.

Case No. I. A girl, age 16, (a patient of Dr. L. L. Bresette), was withdrawn from school, November 24, 1927, with the complaint of severe fatigue, afternoon rise of temperature of 1°F, and a slight pulmonary hemorrhage. Physical examination of her chest at that time was essentially negative, also two x-ray examinations. She was regarded, however, as possibly having an early tubercular process and was confined to her bed for a period of six months, during which time she maintained a slight afternoon elevation of temperature. On June 10, 1928, she had a chill with a rise in temperature to 103°F. This was associated with muscular and articular pain, profuse perspiration, anorexia, headache, marked nervous depression, constipation and severe weakness. She was admitted to the hospital twelve days later with a temperature of 102°F, pulse 100, respiration 20. There were a few coarse rales at bases of both lungs with a small area of bronchial breathing at right apex. The spleen was not palpable. The tongue was coated.

Laboratory findings: urine, 1 plus albumin and few pus cells. Blood: R.B.C. 3,984,000; Hb. 65 per cent (Sahli); W.B.C. 2850, polys. 38 per cent, lymphs. 53 per cent, monos. 8 per cent, baso. 1 per cent. Malaria smears negative. Widal negative. Paratyphoid A and B negative.

Wassermann and Kahn negative. Blood culture negative. B.M.R. —12 per cent. Agglutination for undulant fever using *B. abortus* antigen positive, complete 1/1280, partial 1/2560.

Treatment: On July 10, 1928, she was given 0.25 c.c. mixed vaccine subcutaneously; July 11, 0.5 c.c.; July 12, 1.0 c.c.; July 14, 1 c.c., and July 16, 1 c.c. After the third injection there was a severe systemic reaction and the patient's symptoms became much worse. There was a marked local reaction from each dose leaving a local indurated area. Two of these areas formed abscesses and required drainage. After the third dose there was a marked subjective and objective improvement in the patient's condition. Temperature was normal on July 23. She was confined to bed for two weeks following and since that time has been entirely free of symptoms.

Case No. II. A salesman, age 44, (a patient of Dr. F. F. Campbell), on May 1, 1928, complained of headache, backache, associated with slight fever. At this time he was regarded as having "flu." These symptoms persisted, however, after treatment he developed very painful jaws and two teeth were extracted. On June 2, he had a severe chill, a temperature of 104°F. The chills became regular, occurring at 12 hour intervals, and were associated with anorexia, profuse perspiration, marked irritability, moderate headache, muscular and articular pain, nervous depression and marked constipation.

The physical examination was essentially negative. Spleen not palpable, joints not swollen. Chest clear.

Laboratory: Urine normal. Hb. 80 per cent (Sahli), R.B.C. 4,136,000; W.B.C. 5600, polys. 54 per cent, lymph. 40 per cent, monos. 6 per cent, Widal negative. Para-typhoid A and B negative. Wassermann and Kahn negative. Agglutination for undulant fever positive, complete 1/2560, partial 1/5120. The same titer was noted with *B. abortus* and *melitensis*.

Treatment: On July 13, 1928, after patient had received no relief, he was given 0.25 c.c. mixed vaccine subcutaneously; July 14, 0.5 c.c.; July 15, 0.75 c.c.; July 16 and 17, 1 c.c. The 0.5 c.c.

dose was followed by a severe systemic reaction in which all his symptoms were exaggerated. The 0.75 c.c. dose gave only a moderate reaction and the two 1 c.c. doses mild reactions. The patient's symptoms were definitely relieved after the second dose. His temperature rapidly returned to normal. There has remained in this patient a residual intercostal neuralgia which has been distressing at times. This is not associated with any other systemic symptoms and he is able to do his work.

Case No. III. A woman, age 32, (a patient of Dr. E. A. Reeves), housewife, about May 1, 1928, complained of general malaise, backache, headache and slight fever. These symptoms became worse and she called her physician on May 17. Due to type of temperature, slight cough and loss of weight she was regarded as possibly a case of tuberculosis. She was seen by another physician on July 12, who suspected undulant fever. Her symptoms could be summarized by frequent chills followed by a rise in temperature, headache, free perspiration, poor appetite, marked irritability, severe constipation, muscular and articular pains.

Physical examination was essentially negative. The spleen was not palpable, joints not swollen and there were a few rales over right upper chest.

Laboratory: Urine normal. Hb 62 per cent (Sahli), R.B.C. 3,632,000, W.B.C. 5650, polys. 49 per cent, monos. 5 per cent. Widal negative. Para-typhoid A and B negative. Wassermann and Kahn negative. Agglutination for undulant fever positive, complete 1/1280, partial 1/2560.

Treatment: This patient first refused vaccine therapy on July 14. Her symptoms became worse and on August 2, with her consent, 0.25 c.c. of a mixed vaccine was given. This was followed by a mild general reaction and on August 3, she was given 0.5 c.c. Following she had a rather severe systemic reaction with rise in temperature to 104°F. Two 1 c.c. doses were given on August 6 and 8, following which there was only a mild reaction.



The result in this case was most favorable. Her temperature rapidly returned to normal, all of her symptoms were relieved and in the opinion of her physician she was definitely cured after three months of the most distressing illness.

Case No. IV. A man, age 34, (a patient of Dr. L. D. Mabie), a hog butcher in a packing house, for 16 years, became rather acutely ill on December 12 with chills and fever of 103°F. During the following month he had moderate anorexia, profuse perspiration, slight irritability, no cough, severe headache, painful muscles of calves of legs, moderate nervous depression, marked constipation, gums sore and bled easily. On January 10, he began to bleed from nose, petechia appeared on body surface, bleeding from gums and nose persisted until he was admitted to the hospital bleeding profusely with temperature of 103.2°F, respiration 22, pulse 114. Anterior and posterior packs were placed in his nose with little relief. The spleen was not palpable.

Laboratory: Urine contained large amounts of macroscopic blood. Hb. 40 per cent (Sahli), R.B.C. 2,600,000, W.B.C. 6125, polys. 48 per cent, lymphs. 47 per cent, eosin 1 per cent, monos 4 per cent, Widal negative. Para-typhoid A and B negative. Wassermann and Kahn negative. Agglutination for undulant fever positive, complete 1/5120, partial 1/10240. Blood platelets 16,000, clotting time three minutes. Bleeding time markedly prolonged.

Treatment: On January 15, 0.25 c.c. mixed vaccine was given; January 16, ½ c.c., after which the bleeding stopped. This patient showed a striking relief of subjective symptoms. January 17, ¾ c.c. and January 18, 20, 22, 1 c.c. was given. On January 18, after the bleeding had ceased, he was given 500 c.c. citrated blood because of his severe secondary anemia. The patient was discharged from the hospital on January 26 with normal temperature.

Five weeks later there was a slight recurrence of fever. He was then given a course of four 1 c.c. doses of vaccine, following the last one there was a severe systemic reaction, after which his temperature returned to normal and he re-

turned to his work.

Case No. V. A man, age 49, (a patient of Dr. P. T. Bohan), a banker. Probable onset was the summer of 1928 and was first seen by attending physician November 14, 1928. Diagnosed undulant fever, November 27, 1928. Summary of symptoms during course of disease was, temperature range 97°F to 103°F, anorexia severe perspiration at times, irritable, bronchitis, severe headache, coated tongue generalized pain, marked nervous depression. Not constipated.

Laboratory: Hb. 99 per cent, R.B.C. 4,940,000, W.B.C. 6000, polys. 58 per cent, lymphs 36 per cent, monos. 6 per cent, Widal negative. Wassermann negative. Agglutination for undulant fever positive, complete 1/640, partial 1/1280.

Treatment: Mixed vaccine in doses of 0.25 c.c. and 0.5 c.c. was given subcutaneously on December 12, 17 and 19. A marked local and slight general reaction was noted after the last two doses. The patient has had no fever since the last dose and has been going to his office every day.

Case No. VI. A man, age 65, (a patient of Dr. H. E. Marchbanks, Pittsburg, Kansas). Probable date of onset was November 29, 1928, and diagnosed undulant fever by his physician December 19, 1928. Summary of symptoms during course of the disease was, temperature range 98°F to 102.8°F, slight anorexia, slight perspiration, slight cough, mild headache, right hip painful, slight nervous depression, frequent chills followed by weakness. Physical examination negative except temperature.

Laboratory: Hb. 80 per cent, R.B.C. 4,340,000, W.B.C. 9500, polys. 62 per cent, lymphs. 25 per cent, monos. 13 per cent. Widal negative. Para-typhoid A and B negative. Wassermann negative. Agglutination for undulant fever positive, complete 1/1280.

Treatment: A mixed vaccine starting with 0.25 c.c. and increasing 0.25 c.c. until 1 c.c. dose was given from January 5 to January 13, 1929. Some general reaction followed each dose with a severe reaction after the fourth dose.

There was definite relief of symptoms following the 0.5 c.c. dose and the tem-

perature was normal on the fourth day after treatment was discontinued.

Case No. VII. A nurse, age 40, (a patient of Dr. R. R. Coffey). During July, 1928, complained of general weakness, slight cough and afternoon elevation of temperature. These symptoms persisted and she was first seen by a physician on September 12, 1928. At this time she was regarded as having tuberculosis, although her physical findings and *x-ray* studies were indefinite. She was confined to the hospital for complete rest for four months, during which time her symptoms were, moderate anorexia, occasional chills, followed by profuse perspiration, marked nervous depression, constipation and a temperature range of 98.6°F to 102°F.

The physical findings were essentially negative. The spleen was not palpable, a few fine rales were heard over chest.

Laboratory: Urine negative. Hb. 80 per cent, R.B.C. 5,660,000, W.B.C. 7375, polys. 48 per cent, lymphs. 47 per cent, monos 4 per cent, eosin. 1 per cent. Widal negative. Para-typhoid A and B negative. Wassermann and Kahn negative. Agglutination for undulant fever positive, complete 1/160, partial 1/320.

Treatment: Six doses of a mixed vaccine were given between January 12 and January 26, 1929, with 0.25 c.c. and increasing 0.25 c.c. until 1 c.c. dose was reached. Following the third dose (0.75 c.c.) there was a severe systemic reaction which subsequent doses did not produce.

Due to a slight elevation of temperature 99.6° on February 3 she was given 1 c.c. of swine *B. abortus* vaccine. Since this time her temperature has been normal. After the severe reaction of the third dose this patient's symptoms were definitely relieved. There was a local indurated area at the site of each inoculation. These have persisted but do not cause any discomfort.

Case No. VIII. A woman, age 39, (a patient of Dr. F. L. Zeloske). Probable onset, fall of 1928. First seen by her physician February 3, 1929, when she had a chill and temperature of 104°F. Diagnosed undulant fever February 12, 1929, after admission to hospital. Her symptoms summarized, were, tempera-

ture range 98° to 105.4°F, severe anorexia, severe perspiration, moderate irritability, no cough, no headache, slight generalized pain, moderate nervous depression, severe constipation and frequent chills.

Physical examination essentially negative. Spleen not enlarged, tongue moderately coated.

Laboratory: Hb. 91 per cent (Sahli), R.B.C. 4,900,000, W.B.C. 5025, polys. 54 per cent, lymphs. 39 per cent, monos. 6 per cent, Widal negative. Para-typhoid A and B negative. Wassermann and Kahn negative. Agglutination for undulant fever positive, complete 1/1280, partial 1/2560.

Treatment: A swine vaccine starting with 0.25 c.c. and increasing 0.25 c.c. daily for four days, was given February 14 to February 17, 1929. Temperature was normal for three days and then ran to 100.2°F and on February 21 1 c.c. of mixed vaccine was given intramuscularly following which there was a slight rise in temperature. The chills ceased after the 0.75 c.c. of vaccine. She was discharged from the hospital on March 3, 1929, and other than the ordinary malaise following a severe infection, which lasted for two weeks, she is well and able to do her work.

Duration of disease from onset of vaccine therapy was nineteen days.

Case No. IX. A woman, age 43, (a patient of Dr. C. E. Coburn). Had a slight chill with fever on February 18, 1929, after this she did not feel well and called her physician on February 25, 1929. A diagnosis of undulant fever was made on March 6, 1929. Summary of her symptoms was, temperature range 98° to 101.4°F, slight anorexia, slight perspiration, slight cough, severe headache, no generalized pain, slight nervous depression and slight constipation.

Physical examination essentially negative. Tongue coated, spleen not palpable.

Laboratory: Hb. 82 per cent, R.B.C. 4,570,000, W.B.C. 3825, polys. 54 per cent, lymphs. 42 per cent, baso. 1 per cent, monos. 3 per cent. Widal negative. Para-typhoid A and B negative. Wassermann and Kahn negative. Agglutination



for undulant fever positive, complete 1/1280, partial 1/2560.

Treatment: Mixed vaccine in doses of 0.25 c.c. was given daily for four days. Following the second 0.5 c.c. dose the temperature elevated to 103.2, this again occurred after the 1.0 c.c. dose March 11, 1929. This case could be classified as the ambulatory type of the disease with the outstanding symptoms of a severe headache. Following the second dose the headache disappeared. She was discharged from the hospital March 14, 1929, with temperature 99°F. There persisted a slight elevation of temperature from time to time as high as 99.6° for two weeks and to date there has been no recurrence of chills or headache.

Case No. X. A woman, age 39, was admitted to the hospital with complaint of pain in back of neck and upper right abdomen, severe nervousness, and cries easily. These symptoms followed "flu" during January, 1929. Lost 20 pounds in weight. Markedly constipated, no cough. Pain radiated to back and toward bladder. Had been diagnosed as having gall stones, kidney stones and appendicitis.

Physical examination essentially negative, except for exaggerated deep reflexes.

Laboratory: x-Ray studies of gall bladder and kidneys were negative. Urine negative. Hb. 85 per cent, R.B.C. 4,850,000, W.B.C. 6075. polys. 52 per cent, lymphs. 42 per cent, monos. 4 per cent, baso. 1 per cent, eosin 1 per cent. Wassermann and Kahn negative. Agglutination for undulant fever positive, dilution 1/320.

Treatment: This patient was treated with vaccine because it was believed that the neuritis and neurasthenic symptoms were a residual of undulant fever.

She was given four 1 c.c. doses of mixed vaccine, intramuscularly and there was a slight reaction after the third dose. She was observed in the hospital for one week and discharged definitely improved.

#### PREPARATION OF VACCINE

Five pathogenic strains of bovine and one of swine *Brucella abortus* were mixed in equal quantities after being washed from agar slants with sterile sa-

line. The suspension was standardized with a McFarland nephelometer, No. III, and then placed in a water bath at 60°C for two hours, recultured for sterility and placed in sterile vials. The number of organisms per c.c. was approximately six billions. The preservative used was 0.5 c.c. of 10 per cent phenol, to each 10 c.c. vaccine.

#### DOSAGE

The dose given in the above cases was arbitrarily started at 0.25 c.c. and increased 0.25 c.c. with each dose until the full dose of 1 c.c. was given. These were administered on consecutive days unless some symptom seemed to contraindicate.

At no time was more than 1 c.c. used. Subcutaneous injection was used in each of the first seven cases and intramuscular injection in the last three cases. Guifre<sup>4</sup> has advocated intravenous injection of 0.2 to 0.4 c.c. although we have not tried this method. As few as three and as many as eight doses were administered.

#### REACTIONS

A general reaction occurred after the second 0.5 c.c. dose was used in three cases, after the third 0.75 c.c. dose in three cases and after the fourth 1 c.c. dose in four cases. These reactions are fairly severe and are characterized by a general increase in the patient's subjective symptoms. After the initial severe reaction subsequent doses seem to elicit only mild or no reactions. It seems advisable to continue treatment until there is a definite severe reaction.

At the site of injection there has appeared an indurated area which causes the patient slight discomfort and is slow to disappear. The cause of this is indefinite, the possibility of course of an allergic phenomenon as well as a marked toxicity to the tissues of the *Brucella abortus* organism has been suggested.

#### COMMENT

It is the opinion of the twelve different attending physicians in the reported cases that the vaccine used acted in a specific manner. In the first three cases no recurrence of symptoms has appeared after nine months.

It has been observed in the study of these cases that the nervous symptoms

are the slowest to respond and although they are clinically cured there has remained slight "neurasthenic" manifestations. Case No. II has a residual intercostal neuritis which has been troublesome at times.

The clinical varieties of the disease treated have been acute undulating type, ambulatory type, and one case (No. IV) of acute malignant type. Little difference has been noted in results of treatment in the different varieties although this series is too small to draw any definite opinion on this point.

During the course of the disease in the cases reported numerous drugs and biologicals were used with only slight or transitory benefit.

#### SUMMARY

1. Ten cases of undulant fever are reported in which marked improvement associated with complete disappearance of symptoms followed the use of a vaccine prepared from pathogenic strains of bovine and swine *Brucella abortus*.

2. One case is reported of the severe malignant type of the disease associated with a severe toxic purpura hemorrhagic.

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### Differential Diagnosis of Difficult Micturition

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In a review of this subject I have deliberately chosen the term "difficult micturition" instead of the term "dysuria" because of the different interpretations of this latter term by different men under the same conditions. Dysuria means painful, difficult urina-

tion; and with such a meaning it is indefinite because such a symptom complex is not always present. The term dates back into early urology at which time there was a less definite understanding of urological pathology and accompanying symptoms.

The act of micturition may at any time during ones life be attended by more or less difficulty. In this consideration today, pain and frequency do not necessarily enter, because quite often there is no pain and frequency is not above the normal.

Disturbances in the act of micturition in a conscious rational person may be caused by a disturbance in any one of the composite requirements for the act. The act of micturition in the normal requires an expulsive force of the bladder and a clear channel in front of it. The thinning of the walls of the bladder by dilatation or the sclerosing of the walls of the urethra or nervous incoordination contributes in its own degree to the effort involved in the emptying the bladder of its accumulated contents. It is not an uncommon happening in our experience to find the diagnosis of disease with the symptom of difficult micturition, placing itself under three headings and these headings being arrived at in direct relationship to the age of the patient.

Heading No. 1: The diagnosis of "cystitis" is invariably made with the symptom of difficult micturition in women and children.

Heading No. 2: The diagnosis of "stricture" in young male adults.

Heading No. 3: The diagnosis of "prostatic hypertrophy" or "calculus" in adults or old age.

This, of course, is fallacious, the other conditions that cause difficult micturition being not only of serious importance but are very frequent in their occurrence and their frequency and importance make demands for diagnosis. We therefore feel it timely to call attention to the fact of the possibility of these additional pathological conditions.

The symptom, as its name implies, is characterized by an appreciable slowness in starting the stream but the slowness may be in any degree from a slight hesi-





pear on the floor of the bladder and are covered with a fibro-purulent exudate mixed with phosphatic deposits. In these cases there is always a difficult micturition caused by a protective effort on the part of the bladder to keep from further injuring the ulcer.

The amount of difficulty in cases of tumors of the bladder depends solely on the location of the tumor. If it lies near the bladder neck, it will act as an obstructive factor. A painless hematuria is nearly pathognomonic of bladder tumor in the presence of obstruction. Again is the diagnosis made by the cystoscope.

Stones: In stones the difficulty is as in tumors, but the pain accompanying is more severe and the urine shows a great deal more pathology. There is hematuria, pain, much infection, debris and mucus in the urine with the same intermittent obstruction to the outflow.

Under CNS the division becomes enormous and although each of them does not often appear, the very quantity of the CNS possibilities represent a factor that must be taken into consideration. Most of them are of grave importance, at least they represent the possibilities of a needless operation if not considered. They all represent nervous phenomena and are influenced not in the least by the mechanical reasons heretofore stated. I will simply mention post-fossal tumors.

Tabes: Each of us knows of this condition but some of us do not realize the commonness of its occurrence nor do we realize the possibilities of its occurrence coincidental with hypertrophied prostate and the necessary difference in the prognosis in the event it does.

Cerebral: I shall simply mention meningitis and hemorrhage.

Habit: As in preachers and teachers and other persons that over periods of years allow the bladder to remain over full with a subsequent dilatation and loss of muscular tone which causes difficult urination.

In undernourished and fatigued persons there is often encountered a difficulty in urination, but there is no mechanical reason and it is probably not permanent.

Hysteria: In this condition there is

truly a loss of co-ordination applied to the bladder as there is in other parts.

Psychic: Persons often develop through life a "fixed idea", as for instance, they cannot urinate in the presence of another. In one's office with a patient of prostatic age and "bladder shy", one of our chief symptoms for prostaticism may be truly found, that is, slowness in starting the stream or inability to urinate or a residuum if one does not recognize the possibility of the CNS "fixed idea."

Reflex: Difficult micturition may be caused reflexly as following injury externally or by trauma during operation.

Now under the second general heading, we shall only interest ourselves with three portions, namely: Cicatricial neck, prostates in general, and veru-montanitis. Cicatricial neck quite often follows a severe cystitis of any source with an increase in tissue growth and a cicatricial formation at the neck; also, in post-operative prostates there is always infection, healing by second intention with a cicatrix formation at any time from the first month to the first year, simulating in symptoms a recurring hypertrophied prostate with an accompanying acute cystitis.

Prostate. The difficult micturition of the hypertrophied, malignant, adenomatous, abscessed, or infectious prostate I need only mention. I am sure I have never been to a meeting that does not cover some phase of this subject.

Veru-montanitis: This is an enlargement by engorgement and granulation of the veru in the prostatic area which gives rise to symptoms of difficult urination and according to age, the patient is usually diagnosed as stricture or prostaticism. It is caused by chronic vesicular infection, by withdrawal, or continued masturbation and is diagnosed by the urethroscope and by its accompanying sexual symptoms.

Under the last general heading, the urethra, we will consider first, tumors. These very often bleed, obstruct intermittently, become infected, and act in many ways as a stone. Only by the urethroscope and x-ray can they be definitely diagnosed.



Foreign bodies in the urethra are a more common pathology than is usually suspected and quite often a lot of unnecessary trouble and work can be eliminated by a careful history in cases of acute obstruction with a hyper-acute history.

Cowperitis: Acute or chronic cowperitis can so obstruct the urinary canal as to obstruct the outflow and quite often is mistaken for stricture.

Stricture: Some tight strictures of the urethra may present very few symptoms while others show marked interference with the stream; various degrees of retention may be sponsored by a slight tight band in the posterior urethra. Although the character of the stream, its irregularity and lack of force, does not necessarily indicate a stricture, one usually finds the stream is narrow, comes out with little force, and *has dribbling after completion*. In stricture retention, the retention is short lived and is recurrent with immediate relief by reduction of inflammation.

Summary: 1. One cannot arbitrarily make a diagnosis by age classification.

2. The various conditions, other than the usual are of extreme importance because of their bearing upon operation type and prognosis and must be diagnosed.

3. Obstruction in old age does not mean prostatism only.

4. Cerebral or cord lesions may be present in the cases of prostatism and should be looked for in each case.

5. A very careful, well-obtained, history is of the most importance.

6. A diagnosis is not necessary nor should it be made until after repeated examinations, including cystoscopy or urethroscopy as indicated.

#### CONCLUSIONS

In this necessarily brief and incomplete review of the symptom of difficult micturition, I have endeavored to lay stress on the varied conditions presenting this symptom and also the importance they may assume. My excuse for presenting these facts so familiar to all urologists is that enough importance is not attached to the even more important conditions of the urological tract that

present this particular symptom and that our profession as a whole is too prone to accept a diagnosis in urology by an age classification. Physical examination, history taking, and early symptoms are not often enough taken into consideration so that mistaken diagnosis is more or less constantly being made to the embarrassment of both the doctor and the patient as to end result. In no class of diseases is there more distress, suffering, and embarrassment than that caused by lesions of the genito-urinary tract; and in no class of cases can a more correct diagnosis be made or more accurate relief be afforded. It is only by the constant reiteration of these facts that better results can be obtained by early recognition and treatment; and I feel it my duty to the profession, to the laity, and to myself to try to keep these facts alive.

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#### Studies on Influenza

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For the experimental scientist who is especially fond of his hobbies, and for the business man who puts money above obligation to society, influenza has been the proverbial hen that laid the golden egg. For the first has cluttered the literature with many so called brilliant discoveries and with statistics of no value, and for the second, it has offered an opportunity for a profitable financial exploitation of the laity as well as many in the profession.

On the other hand, that large group of experimental scientists, clinicians and others who have earnestly sought to solve the mystery of the cause of influenza have been rewarded only by failure and discouragement except for some who feel that they have shown or that others have shown to their satisfaction that either *Pfeiffers bacillus*, *B. pneumocintes* or some other organism is the cause of influenza and for the interesting findings of the epidemiologists.

The clinical knowledge of influenza goes back probably into antiquity. Leichtenstern<sup>1</sup> who wrote a remarkable mono-

graph on influenza following the 1889 epidemic, cites possible epidemics back to 412 B. C. He begins his tabulation of outstanding epidemics with that of 1510 which was followed by another extensive epidemic of 1557 and a great pandemic in 1580. In the 17th century he says the reports were very scanty but in 1627 a great epidemic started in North America and spread to South America and the West Indies. Two extensive epidemics and five pandemics occurred during the next century. It is interesting to note that three of these pandemics apparently started in Russia, one in China and one in North America and spread over the entire world. The 19th century saw an extensive epidemic in 1827 in Russia and Siberia, a series of three pandemics from 1830 to 1833, starting first in China, the second and third apparently starting in Russia. The years of 1836-37, 1847-48 and 1889-90 were periods of great pandemics. Interspersed between these were smaller epidemics and outbreaks which were regarded by many as influenza, all of which coincides with the clinical experience of the present generation.

Concerning these and the two concepts which prevailed at the end of the 1889-92 epidemic, Leichtenstern says:

"Should, however, the numerous influenza outbreaks and epidemics which A. Hirsch has tabulated in his historic and exhaustive work prove to be one and the same species of influenza—a possibility that cannot be simply neglected—influenza would show itself, in respect to its epidemiologic features, as an exceedingly variable and protean affection. It would be possible, under the conditions mentioned, to give the following epidemiologic definition of influenza:

"Influenza is a specific infectious disease and usually arises epidemically, but it is, in fact, endemic over all the world (sporadic cases), although in any particular district or place years and decades may pass before the disease shows any great epidemic development. An epidemic of the disease is demonstrable nearly every year in some part of the world. There occurs then, from time to time, starting in some part or center, or from several places simultaneously, from

unknown causes, an enormous increase in virulence of the specific micro-organism, with accompanying increase of contagiousness. These are the periods in which influenza spreads in the form of a mighty epidemic over entire countries, a hemisphere, or the entire earth. Our common endemic 'influenza' or 'grip', which generally occurs sporadically or as a mild epidemic, belongs to the same species of disease as the world pestilence, influenza. It is, however, less virulent and the specific cause has less vitality."

Leichtenstern contrasts his own personal concept of influenza with that of A. Hirsch given above by thus continuing his discussion:

"For the present, until a final decision is arrived at by means of bacteriology, we maintain that influenza nostras and pandemic influenza are just as distinct diseases as are cholera nostras and Asiatic cholera. According to this view, we divide the diseases designated as influenza as follows:

1. The pandemic influenza vera, due to the bacillus of R. Pfeiffer.

2. The endemic-epidemic influenza vera, which develops after a pandemic from the residual germs (bacillus of R. Pfeiffer). The duration of this endemic stage of influenza vera may last several years in individual districts.

3. The endemic influenza nostras s. notha, pseudo-influenza, catarrhal fever, vulgo grippe, a disease sui generis. The micro-organisms of this disease are as little known at present as are those of cholera nostras."

Relative to the epidemiological conclusions which appear in Leichtenstern's monograph the following strikingly modern deductions may be summarized:

1. The appearance of true pandemics at considerable intervals of time followed by one or more waves of small epidemics that spread more slowly and have a lower morbidity and with frequently a greater mortality.

2. The apparent relationship of the spread of pandemics with modes of communication and travel with some exceptions that are difficult to explain.

3. The extensive affection of the inhabitants in the locality of outbreak.



4. The entire independence from wind and weather from season and climate, etc.

5. Disproportion between enormous morbidity and remarkably small mortality of pandemics.

6. The uniformity with which all ages and occupations are affected.

7. That influenza bears no relationship to diseases of the lower animals.

8. That it is not water born.

9. That it is due to a specific micro-organism entering the body through the respiratory tract.

10. That the incubation period is usually one to three days.

11. That immunity to influenza is of relative short duration.

#### TERMINOLOGY

The nomenclature of the disease has been varied, he calls attention to such interesting names as the following—catarrhus epidemicus, tussis epidemica, contagious catarrhal fever, horion (1411 France) "lightening catarrh" (1782), "Gallant" and "fashionable disease" (1709-32) "Sheeps cough" (1580), the term "coqueluche" first applied by the French to influenza in 1578 was later transferred to whooping cough. It has also been named after various countries where it was supposed to originate such as Chinese, Russian, Spanish and Italian catarrh. Relative to the terms "influenza" and "grip" he makes the following statements:

"The term influenza (influxus) was first applied to the disease in the epidemic of 1743 by Pringle and Huxham. The word points to the causation of the disease, 'influence of cold,' 'influenze di freddo, or 'influence through atmospheric phenomena.' Even Ch. Calen (1759) makes it depend on 'ab occulta quadam coeli influentia.'

"The word 'grip' originated simultaneously with the name influenza in the year 1743: but its birthplace was France, where, up to the present time, the disease has had only this enviably convenient name. The word is derived from 'agriper,' to attack, or from 'gripper,' to catch, to snatch, and perhaps originated in an analogous manner to the words lightning catarrh and horion. The Slav-

onic form of the word (chypka-hoarseness, J. Frank Eiselt) has not yet been proved to be an earlier name for the disease. Grant (1782) relates that the name is derived from an insect called 'la grippe,' which at that time in Europe was generally considered to be the cause of the disease (compare section on Influence of Meteorologic Conditions)."

#### BACTERIOLOGY OF INFLUENZA

In regard to the bacteriology of influenza, Leichtenstern's remarks read as if written only recently and for the most part probably to the point even though published over thirty years ago:

"The rapid distribution of the pandemic immediately led the bacteriologists of all countries to investigate and try to discover with the microscope the new germ, the specific cause of the disease. There was a veritable plethora of reports produced regarding the bacteriologic findings in the various secretions of influenza patients, especially in the pneumonic and pleuritic exudates. In every case it was previous well-known pathogenic cocci (streptococci, staphylococci, pneumococci, occasionally also Friedlander's bacillus) which were found, either singly in pure culture or in combination with each other.

"In some places, as Vienna, Strassburg, etc., it was principally the *Diplococcus lanceolatus* which was found in the pneumonic areas, in the sputum, and in the otitic and meningeal pus, while in other places, like Bonn, Paris, etc., streptococci were usually found. All the expert bacteriologists correctly interpreted their findings at that time in considering the above named cocci as of only secondary significance. Only one observer was so far misled by the frequent presence of the streptococci as to believe himself justified in proclaiming the *Streptococcus pyogenes* as "the most probable exciting cause of influenza." This attempt to identify the causa morbi, based chiefly upon the presence of streptococci in the inflamed lungs of influenza patients, is all the more incomprehensible since long before the outbreak of influenza it was well known that streptococci were frequently found in the mixed infections of various forms of, and

particularly of croupous, pneumonia (Naunyn, 1887), but also that these organisms probably possessed the power in themselves of causing pulmonary inflammation.

"The historic micrococci which O. Seifert first found in a small 'influenza' epidemic of 1883, judging by description, were probably streptococci. Some observers who found previously known pyogenic cocci, nevertheless wanted to consider them, on account of unimportant tinctorial or cultural peculiarities, as a variety peculiar to influenza. But all these observations, as well as those of a few 'specific varieties of bacteria' claimed to have been found at that time, some being cocci, other bacilli or diplobacilli (Teissier), and even some flagellata, proved to be fallacious or without significance. Thus, the very promising bacteriologic investigations of influenza during the years 1889-1892 produced completely negative results, but the energy applied to the investigations was not wasted, since the results showed that in the various pathologic conditions produced by influenza, especially in the pneumonic and pleuritic exudates, simultaneous or secondary infection by the well known pyogenic and pneumonia-producing agents plays an important role.

"The hope of finding the specific cause of influenza appears to have been universally abandoned, when R. Pfeiffer, in the beginning of the year 1892, published his sensational announcement 'regarding the cause of influenza,' a discovery which found recognition and substantiation by the bacteriologists of all countries. In the following description of the most important characteristics of the influenza bacillus we adhere strictly to the account given by its discoverer."

These remarks are of especial interest when it is recalled that when the great pandemic of 1918 began, the scientific world almost uniformly accepted Pfeiffer's bacillus as the cause of influenza. Soon a wave of doubt and skepticism swept over the country, a violent reaction against accepting this organism as the etiological factor grew rapidly due to the inability of public health workers,

pathologists and bacteriologists to confirm their early and accepted beliefs. Immediately the reincarnation of O. Seifert appeared in several individuals and streptococci and diplococci were again announced as having been absolutely and positively shown to be the cause of influenza. Vaccines were recommended and I am told that a large city in the United States wasted \$25,000 upon such vaccines in an honest and commendable endeavor to head off the ravages of this disease.

I mention this as a specific biological experiment on a large scale which should answer the question of the value of prophylactic streptococcus vaccines in preventing influenza. The recent attempt to foist vaccines made of Pfeiffer's bacillus upon the public has been adequately dealt with in editorials in the A.M.A.<sup>2,3</sup>

It is not surprising that the cause of influenza is not definitely established. The limitations of our methods of staining, isolation and cultivation are brought to our attention continually. Our present methods had only been given to the world a few years before the great pandemic of 1889 and the great pandemic of 1918 was the first real opportunity to make extensive studies after that because influenza can only be recognized with absolute certainty in large epidemics and especially pandemics. Mumps and measles and the common cold we have with us all the time and yet do not know their cause.

In addition to giving us solid media in 1882, Koch added to the suggestions of Henle and gave us a set of laws that should be fulfilled in order to settle the question of the etiological relationship of an organism to a specific disease.

1. The organism must be found quite uniformly associated with the disease.
2. It must be isolated in pure culture.
3. It must be transmitted to a susceptible animal, in a suitable manner and reproduce the disease.
4. You must be able to recover the organism in pure culture.

Our experiences with influenza have certainly demonstrated that these laws are not fool proof and in Rivers<sup>4</sup> work on filterable viruses he has called attention to the fact that it is not necessary to



fulfill all of them to learn and accomplish a great deal about diagnosis and even preventing some diseases. This he has illustrated by the work of Pasteur on rabies.

In regard to Pfeiffer's bacillus as the cause of influenza, Rivers remarked at one of the national meetings that there was probably only one true Pfeiffer's bacillus and that was the one Dr. Pfeiffer isolated and failed to adequately describe. The significance of this remark is certainly made manifest when one peruses the laboratory findings published during the 1918 epidemic. Apparently many workers regarded any and all Gram negative organisms appearing in sputum smears as Pfeiffer's bacillus. Culturally one well known bacteriologist considered Gram negative bacilli producing acid and gas in dextrose as Pfeiffer's bacillus as well as other organisms that did not. To my mind the work of Jordan<sup>5</sup> and also of Rivers<sup>6</sup> brought some order out of chaos. They offered definite criteria defining *B. influneza* for the first time and thus made possible statistical studies and experimental investigations of this organism.

Three other points that have been repeatedly overlooked in attempting to fulfill the first postulate are:

1. The normal bacterial flora might be expected to be present in all cases and should be excluded.

2. Secondary invaders, even though pathogenic, are not necessarily the primary cause.

3. The extreme fundamentalist doctrine that the "antigenic plasma" of the cell, plus the "mirror reaction" is the only way to identify an organism, was considered quite orthodox until recently. I am not denying the value of the agglutination reaction but the extreme view that an organism is represented by only one antigenic unit is biologically unsound and has held back fruitful investigations. The pitfalls of the agglutination reaction have been recently reviewed by Hooker<sup>7</sup> in a discussion of streptococci.

In regard to the second postulate, that of isolating the etiological factor in pure culture, I have already called attention to the limitation of our technique. The

third postulate, that of reproducing the disease has lead to much confusion. In the first place many have apparently assumed that influenza is essentially a broncho pneumonia and hence if they can produce an experimental pneumonia in rabbits or guinea pigs then they have fulfilled this requirement. If other methods failed, they injected broth cultures into the trachea and were blissfully happy at producing pneumonia. The question whether rabbits or guinea pigs are susceptible to the organism of influenza, being thus settled in spite of the fact that no supporting evidence seems to exist and that the incidence of pneumonia in human beings is frequently under 5 per cent of those affected. Failure to appreciate that rabbits are not the homologue of the human has led many well trained and able clinicians to abandon their knowledge of clinical medicine and base diagnosis of gastric ulcer upon tooth extraction, rabbit inoculation and the demonstration of gastric hemorrhages in the gastric mucosa of rabbits. Another example where the postulate of Koch is misunderstood and where an attempt is made to substitute laboratory procedure for clinical experience and intelligence.

This is not an indictment of the postulates of Koch but an appeal for the medical profession to apply them in conformity with the intent of their creator.

#### INFLUENZA AT THE UNIVERSITY OF KANSAS

The first epidemic at the University of Kansas, with which I am familiar, occurred during the mobilization of the S. A. T. C. in the fall of 1918. We were able to hospitalize all patients. The morbidity was approximately 30 per cent of the student body. There was an incidence of pneumonia among those afflicted of 2.2 per cent. There were .3 per cent of these afflicted with influenza, who died of either pneumonia or meningitis. Pfeiffer's bacillus was conspicuous by the infrequency of its occurrence. Four of the meningitis cases were due to type II pneumococci and four to type III. Two of the type II infections recovered, the other two type II and all of the type III cases died. A number of blood cultures were done on uncomplicated influenza

patients with negative results. The blood counts in uncomplicated and early cases showed, as a rule, a leukopenia with a relative lymphocytosis and diminution of eosinophiles. While the blood picture was not established during the 1889 epidemic, yet it is of interest to note that in 1901 Gaylord and Ashoff<sup>8</sup> considered the typical influenza blood picture as one in which there is no elevation of the white count and it was quite generally taught prior to the 1918 epidemic that influenza was one of a group of diseases characterized by a leukopenia, as Dr. Jordan<sup>9</sup> said at the recent conference called by the surgeon general, this was thoroughly established as one of the positive findings of the 1918 epidemic and is of considerable value in diagnosis.

During the next wave of the epidemic, we carried out rather careful studies<sup>10</sup> on the bacterial flora of the stools of influenza patients and isolated from half of the cases in each of five different communities organisms which showed decided antigenic relationships to *B. enteritidis* "Gartner" and which were identical culturally with it and *Para* "B". One strain satisfied completely the mirror reaction for *enteritidis* "Gartner" while the others were related to it according to absorption tests. Their presence bore no relationship to diarrheas. This work is of interest for several reasons.

1. It is evident that there occurs in a large per cent of influenza patients an apparent abnormal bacterial intestinal flora. Somewhat similar phenomena have been described as occurring in other clinical conditions. It seems to me that such striking phenomena as a marked alteration of the normal bacterial flora should receive much more consideration than it has in the past. While the organisms present may have no etiological relationship to the disease, yet the underlying factors responsible for such abnormalities and a careful study of the abnormal flora in different clinical conditions manifesting such might be of more than academic interest.

Obviously the first question to be raised is whether the flora under consideration is abnormal. My opinion is that in influenza the flora is truly abnormal

in a large percentage of cases and, so far as I can judge from the literature, differs in many respects from what would appear on first inspection to characterize abnormal stools in some other clinical conditions. In the first place, I know of no typical influenza stools as judged by gross appearance, consistency, etc. There is apparently no disturbance in the normal occurrence of *B. pyocyaneus*. When plated on E.M.B. media there frequently occurs an unusual number of colonies resembling those of *B. aerogenes*. In from fifty to seventy per cent of the stools we have studied, any where from one or two to many small clear colonies were found which yielded Gram negative rods that gave acid and gas in dextrose, mannite, xylose and rhamnose, and failed to ferment lactose and saccharose. They did not liquefy gelatin. Those isolated in 1919 all blackened lead acetate agar and were typical in old Russell's for *B. enteritidis* or *Para* "B" and gave the typical alkaline reversion in litmus milk. Preliminary inoculations in brilliant green broth gave better results than direct plating. The cultures were all studied for three weeks which ruled out all slow lactose fermenters. Most strains did not produce indol but some strains did. These are obviously not Morgan's bacillus or *B. suispestifer*. They showed some antigenic relationship to *B. enteritidis*, one strain agglutinating in one to ten thousand with enteritidis serum. It also met the requirements of the mirror reaction. These organisms certainly have no name under our present standards of classification. We carried out feeding experiments on monkeys and obtained infection in two instances. At autopsy one of the monkeys showed extensive typhoid like ulcers of Peyer's patches, acute hepatitis, acute splenic tumor and marked hyperemia and edema of the lungs. The organisms were obtained from the heart's blood and lungs. The other animal gave a positive febrile reaction and a positive blood culture.

In the epidemic of 1928 at the University of Kansas, ten stools were cultured and seven yielded Gram negative rods giving acid and gas in dextrose, mannite and xylose and rhamnose nega-



tive in lactose and saccharose and non-indol producers, when first isolated. Five months later five of the seven produced a slight amount of indol and two remained negative as judged by the Ehrlich and Vanalin tests. Antigenically, Downs has found that they show no relationship to *B. enteritidis* by absorption tests and differ in some other respects. Four of the strains fall into one antigenic group. The stools likewise showed frequently an increase in aerogenes like colonies over *B. coli* colonies on E.M.B. plates. These were definitely not Morgan's bacillus or *B. suipestifer* and so far as I know are unnamed members of this group. It is interesting to note that the stools of each epidemic were fairly consistent in the type of variants they yielded.

These organisms appear to me to be quite similar to ones studied by Atkinson<sup>12</sup> in Jordan's laboratory in 1912 and 1913. He obtained them I believe from the stools of a series of institutional epidemics characterized as I remember by diarrheas.

Klein and Torry<sup>13</sup> published a survey of the literature including four cases of their own on the pulmonary complications of paratyphoid fever. A careful perusal of their report strongly suggests that most of the epidemics, if not all, might have been true influenza in which this altered bacterial flora phenomena was manifest. If their interpretation of the etiological factors of the epidemics that they report upon is correct then it would be incontrovertible evidence that members of this group can and do produce epidemics clinically indistinguishable from influenza for they say—"Wiltshire was of the opinion that many of these cases could easily be mistaken for influenza or gastro-enteritis, as the attacks may be of short duration, in this way giving many opportunities for the carriers, as well as those actually sick with the disease, to spread infection. Stolkind describes a distinct respiratory form of paratyphoid fever in which the symptoms resemble those of influenza" "A most important contribution to this phase of the disease has been made by Minet. While working back of the French

lines he was able to isolate and cultivate the *Bacillus paratyphosus* from the sputum of seven cases, of these four were *Bacillus paratyphosus A*, two were *Bacillus typhosus B* and one was due to Gartner's bacillus." . . . "In conclusion, there seems to be a definite pulmonary form of paratyphoid fever which may be easily mistaken for any of the acute respiratory infections." Frey<sup>14</sup> of the British army wrote me that he had obtained similar organisms from the blood stream in one epidemic of influenza among German prisoners of war and it is not inconceivable that these organisms acting as opportunists might be found occasionally in the blood stream. McAdams<sup>15</sup> isolated similar organisms at autopsy in an influenza epidemic in Mesopotamia. We have isolated them in almost pure cultures repeatedly from the urine as well as the feces of one patient. I am certain that some of them have been described as Pfeiffer's bacillus because they were gram negative rods. Wherry and Butterfield's<sup>16</sup> work in Ohio in which they thought that they had isolated similar organisms from influenza patients by the "mouse spray" method has been apparently disregarded because critical observers felt that spontaneous epidemic of *B. enteritidis* among the mice might account for the results. Abram and Glynn<sup>17</sup> report one case of post influenzal pleuritis due to an organism of this type and other cases of pleuritis due to *paratyphosus "B"* or irregular agglutinating enteritidis like organisms. Kuskow described gastro intestinal lesions, such as members of this group might produce, in cases diagnosed as influenza that came to autopsy in Russia. In view of our findings I think their work would merit more serious consideration.

This phenomenon is of interest because of the possible pathogenicity of some of these organisms that might produce a clinical picture not unlike influenza. This will probably be dismissed by many by the mere thought or statement that members of this group could not produce a clinical picture to be confused with influenza. It should be remembered that typical *Para B* and *B enteritidis* are organisms culturally and morphologically

identical and yet are supposed to produce sharply contrasted clinical pictures. So far as we can measure them otherwise they differ only antigenically. The blood picture of this group is certainly a typical influenza blood picture and a mild Para B infection would certainly be hard to differentiate from influenza unless an agglutination test or blood culture should be positive and apparently this may not be infallible. Blood cultures are frequently negative. It might be of interest at this point to quote Leichtenstern's remarks on the differential diagnosis between influenza and enteric fever:

"From Enteric Fever—For the first few days a definite diagnosis may be impossible. If the attack of influenza commences with gradual pyrexia, with diarrhea, rose-spots, and enlargement of the spleen, as happens occasionally, we may have to wait until the temperature begins to fall before the diagnosis becomes certain. Additional doubt will arise if epistaxis and nervous symptoms, signs common to both diseases, are also present. The most useful guides are then the coryza and conjunctivitis, more characteristic of influenza, while a relatively slow pulse and a positive serum-reaction would be in favor of enteric fever. Leukocytosis is absent in both diseases when uncomplicated."

In an Iowa epidemic of "food poisoning" the first case was that of a bronchopneumonia. Judging by the experience with trench fever, in every influenza epidemic there are probably clinically similar and etiologically different conditions that must sooner or later be differentiated but this will have to await the discovery of the cause of influenza. Thinking it might be worth while to attempt a study of the possible mechanisms underlying this phenomenon of an abnormal bacterial flora we carried out some investigations which yielded the following results:

1. From plates or filtrates a bacteriophage for *B. coli* or *aerogenes* could not be demonstrated.

2. Studies using pyocyanase also yielded negative results. We think that a possible explanation is that some unknown

factor causes a mutation to occur among some members of the colon-aerogenes group that yields mutants that culturally and morphologically and perhaps also antigenically place them in the paratyphoid enteritis group. Another explanation which may be more logical is that these organisms are frequently present in the normal intestine in numbers too small to be detected by our methods but in certain clinical conditions environmental factors favor their growth and development.

In regard to further information relative to the 1928 epidemic at the University of Kansas, we estimate a morbidity of practically 25 per cent of the student body of 4,000 students with only one case of influenza pneumonia that we have record of and no deaths. The blood picture was typical. An interesting public health problem presented itself. When the epidemic reached such proportions that the student health service could not hospitalize or call on a large number of cases, it was faced with the question of whether to keep the university open and permit several hundred cases to be unattended in the various fraternity, sorority and rooming houses, or to close the university. This is entirely a different problem than that of the average public school where children are living at home and under the care of their respective physicians, or even that of institutions supplied with adequate hospital facilities and a fairly extensive personnel. We made determined efforts to enlarge our personnel of doctors and nurses but failed owing to influenza being epidemic elsewhere. After consultation with the state board of health and a brief survey which, in view of the knowledge that we had several hundred cases on our records that we could not give adequate medical attention, was perhaps unnecessary, we decided to close the university and open a large dormitory as a hospital. This would make possible the hospitalization of all of our cases if they would elect to enter. The criticism that the students who were sick went home and thus spread influenza all over the state is hardly fair since influenza was epidemic all over the state. Furthermore with our



limited facilities for handling an epidemic we would have been placed in an impossible position should the university have been kept open and the epidemic have turned into a virulent pneumonia type.

In regard to the present state of our knowledge of influenza it can best be stated in terms of the report of the conference called by the surgeon general, January 10 and 11, of this year, which was summarized recently by Assistant Surgeon General Draper<sup>18</sup> before the School of County Health Officers at Topeka in the following words:

"In referring to our present knowledge of influenza, Professor Edwin O. Jordan of Chicago said that our conception of the disease was an epidemiological one rather than a bacteriological one. The epidemiological picture marks off influenza from any other infectious disease by the rapidity of its spread, by the higher morbidity affecting in some of the great pandemics from 25 to 50 per cent of the whole population, combined with a low mortality ranging from 1 per cent up to 2 per cent or higher of the cases.

"Another feature is the remarkable independence that influenza shows of any environmental conditions. No age is exempt. Both sexes are affected in very nearly the same degree. All races of mankind are susceptible. Social or economic position offers no barrier to the spread of the infection. The state of nutrition and general physical well being appear to have but little influence.

"Clinically no one can be certain in a given case that he is dealing with an infection caused by the same micro-organism as in other apparently similar cases. Sometimes there is universal agreement as to an infection being a specific case of influenza. There are others in which the agreement is not so general, and there are certain other instances where every competent observer will differ one from the other.

"Professor Jordan stated that there were only two points of first rate importance established during the 1918 pandemic. The first was the observation of leukopenia in a large proportion of the cases and this considerable diminution of

the white blood cells in the early stages of the disease is a pretty good objective criterion of influenza.

"The second and by far more important point was that established by Dr. Frost and his associates on the matter of immunity. By his observations in Baltimore and other places, Dr. Frost showed very plainly and conclusively that the number of persons who had influenza in 1920 in one of the secondary waves was just as numerous among those who had the disease in 1918 as among those who had escaped in 1918.

"Through the studies of Dr. Frost we also know that in the 1918 epidemic, at least, the highest attack rate was in the ages from 9 to 14, then a decline from 15 to 19, and so on to the twenty-five to twenty-nine age group when there is a considerable increase. This is followed by another increase in the age group 30 to 34. These figures give us a basis for further study, and it will be a matter of great interest to compare them with those which are now being tabulated from the studies made by the Public Health Service on the 1928-29 epidemic.

"As regards the bacteriology of influenza, we are still in considerable uncertainty. The most notable bacteriological work that was done in 1918 was that carried out under the direction of Dr. Simon Flexner in the course of which the *Bacterium pneumocentes* was named as possibly having some connection with influenza.

"There is still interest in the Pfeiffer bacillus which up to 1918 was considered almost universally as the causal organism of influenza. There are, however, a number of reasons why the Pfeiffer bacillus fell from its high estate in 1918. It was found in normal persons in considerable numbers. It was found after recovery from influenza, and we have little ground for believing that the convalescent from influenza is infective very far into convalescence, the infective period being in all probability very early as it is in measles.

"The Pfeiffer bacillus was found not only in persons suffering from influenza, but in persons who had never had influenza and in persons not known to have

been in contact with influenza. In experiments conducted by Professor Jordan in Chicago the organisms were found in the throats of healthy persons in considerable numbers in communities where there had been no influenza. Furthermore, experiments with monkeys and other animals and with human volunteers have failed to give undisputable evidence of the causation of this disease by this particular organism. However, the question of the relation of the Pfeiffer bacillus to influenza is one which should be investigated further and carried to a conclusion.

"With respect to the mode of transmission we have some very definite knowledge. There is no reason whatever for believing that the disease is caused by drinking water or milk, or by the bite of insects, or that it is conveyed from the lower animals. All the evidence indicates the enormous importance of the human agent in spreading this disease.

"It has been thought by some that indirect contact, through eating utensils for example, might be a mode of spreading the infection, but no conclusive evidence for that has been brought forward. It is not clear, therefore, how far indirect contact has anything to do with the spread of the disease. There are evidently a number of factors at work that account for differences in the attack rate in large groups of persons.

"Regarding prevention, Professor Jordan said that our knowledge of the modes of prevention is almost as limited as the famed chapter on snakes in Ireland—there are no snakes in Ireland."

#### SUMMARY AND CONCLUSION

I have quoted sufficiently from the remarkable monograph on influenza by Leichtenstern written shortly after the 1889-92 epidemic and from the report of the recent conference called by the surgeon general to show that with a very few exceptions nothing new has been added to nor subtracted from facts known about influenza as the result of the experience of two large subsequent pandemics.

Pfeiffer's bacillus was tentatively accepted by Leichtenstern as the cause of influenza. At the present time it can be

said that considerable doubt prevails concerning either Pfeiffer's bacillus or *Bacterium pneumocenties* being the cause of influenza. The general opinion seems to be that the cause of influenza is unknown.

The blood picture in influenza is well established as a leucopenia. It is a valuable aid in differential diagnosis.

The immunity developing as a result of an attack of influenza was considered of short duration following the 1889 epidemic. Dr. Frost and his associates have abundantly confirmed this.

Jordan and others worked out definite criteria for Pfeiffer's bacillus. Dr. Jordan's comprehensive survey of the whole question of influenza is a valuable contribution in itself.

It seems likely that the infectious period of influenza does not persist beyond the early stage of the disease. This needs further study.

I have called attention to the frequent occurrence in influenza of an abnormal but fairly characteristic bacterial intestinal flora. I have adequately described the phenomenon for influenza and suggest that wherever abnormal flora are observed in other clinical conditions their study and description might lead to information of more than academic interest. I refer especially to a study of the underlying factors responsible for such change, are what appears to be abnormal organisms normally present but in such small numbers that they are not detected until an attack of influenza produces favorable conditions for their growth and development? Does mutation occur in the normal flora due to environmental factors, bacteriophage or some other mechanism and why? Has this phenomenon caused mistaken diagnosis in certain epidemics clinically influenza but reported as due to organisms similar to the ones that I have described? Are those organisms opportunists and capable of producing secondary infection? Are they of importance to the public health worker? Our work and that of others further suggest that in spite of the voluminous literature that has accumulated relative to food poisoning due to members of this group it needs further study.



I have called attention to the recent epidemic of influenza at the University of Kansas, and the perplexing public health problems it raised and have showed how the determining factors are different from those in the secondary school and many other institutions.

There is no satisfactory evidence to date that would warrant the use of any vaccine either prophylactically or therapeutically in influenza.

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### Anterior Pituitary Hormone in Blood of Women With Ovarian Efficiency

C. F. Fluhmann, San Francisco (J.A.M.A., Aug. 31, 1929), asserts that the process of ovulation which is set up in the ovaries of an immature white mouse by the implantation of anterior pituitary gland tissue has also been elicited by the injection of blood serum from a number of patients with an operative or radiation castration. This occurred as early as eight days and as late as thirteen years following total extirpation of the ovaries. It was also found in three patients complaining of irregular menstruation. Of seventeen patients with a functional amenorrhea, six showed anterior pituitary hormone in the blood, but in four cases the ovaries of the test animal gave the 'luteinization' reaction. It is hoped that the use of tests for the presence of anterior pituitary hormone in the blood of patients may prove of clinical assistance in the diagnosis and treatment

of certain conditions which manifest themselves by periods of amenorrhea and other menstrual disturbances.

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### Hospitalization of Narcotic Addicts U. S. Penitentiary, Leavenworth, Kansas

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As physician of the United States Penitentiary, Leavenworth, Kansas, for the past three years, and coming in daily contact with the narcotic addicts, during which time it has been the writer's pleasure to make a close study of these inmates, acquainting himself with their peculiarities, whims and trickeries, as well as to prescribe a treatment which has brought most satisfactory results.

The narcotic addict is one of the most puzzling problems of the hospital department of the Federal Penitentiary. Primarily he is ill and suffering with a chronic illness which has gripped his very soul, diseased his mind and body; he violates the law, but in a deeper sense suffers from a disease and must be treated as a patient. He requires almost daily attention for the full time of his incarceration. He is quite troublesome to handle because of the depressive action of opium and its derivatives upon the higher brain centers. Those who have used drugs over a period of years have lost their finer sensibilities and have been converted into untruthful wretches; they cannot be depended upon. They are quite apt to malingering, therefore, it is difficult because of their untruthfulness to give them proper treatment.

In the accompanying figures will be noted that during the fiscal year ending June 30, 1928, the institution admitted a total of 690 addicts, out of this number 329 addicts were hospitalized; 361 were not hospitalized because of the fact that they broke their habit "cold turkey" or off the drug for a period of some time in jail.

It is necessary to give the patients a course of treatment which averages from three to seven days, which treatment consists principally of elimination and reconstruction. The latter treatment consists of recuperation and the treatment of their chronic ills.

Many systems of treatment for addicts have been tried and found unsatisfactory for institutions of this type, for example:

The hyoscine treatment which consisted of injections of hyoscine and pilocarpine, but the great fault with this treatment was that the patients were hard to handle because of the peculiar accumulative action of hyoscine, often making them wild and unmanageable. This treatment was a failure.

About this time a great deal of news was being published throughout the country in regard to the Narcosan treatment, and 1000 ampules were received for experimental purposes by the institution. It was noted that the patients were more easily handled than under hyoscine but could detect no specific action in this drug. Because of the fact that the patients were quieter and more easily controlled, an experiment was attempted to discover why this should be true. Narcotic addicts were treated in two groups; one group was given the Narcosan treatment, and the second group, sterilized water hypodermically administered similar to that of Narcosan with the same results. The data gathered in these experiments point to one conclusion, that there was a peculiar psychological influence cast upon the addicts when admitted to the institution, created no doubt, by the clanging of the iron doors behind them. These men in a majority of the cases evidently came to the conclusion that they were locked up and must make the best of their affliction.

Working from this angle, it was then attempted to establish a treatment that would cause elimination, and also counteract the actions of opium and its derivatives. The following is the method used in this institution at the present time.

Any narcotic addict coming into the institution is examined by the writer. If any recent needle marks indicate he had been a recent user, or if he is under the influence of drugs, he is admitted into the hospital, put to bed, and taken off his narcotic immediately. (Two or three inmates gave a history of using as high as 60 grains of morphine a day and the

narcotic was withdrawn with no apparent ill effect). He is given a course of calomel and magnesium sulphate as a purgation. The following morning he is given another purge of magnesium sulphate and immediately after the second dose, he is placed on hypodermics containing strychnin sulphate, 1/60 grain, and adrenalin sol. (1-1000) 5m, made up to 1 c.c. with distilled water. These injections are administered every three hours during the length of time he is a patient in the hospital. Following each hypodermic, he is given sodium bicarbonate to alleviate any accompanying gastric disturbances. During his stay in the hospital, he is given a course of electric sweat baths for a period of seven or more days, according to the individual's condition, followed each time by a needle spray in order to stimulate peripheral circulation. These sweat baths not only increase elimination but aid greatly in controlling other withdrawal symptoms. While in the hospital, for the first three or four days, he is kept on a liquid diet followed by a special diet and tonic. The period of their hospitalization depends entirely upon the patient's physical condition and the reaction to the withdrawal of their narcotics. Following the patient's discharge from the hospital they are retained upon a special hospital diet in correlation with a tonic. Those who are in a poor physical condition are given light work for a period of time in open air and sunshine, in order to give them a chance to gain weight and readjust themselves. The remainder who are in fairly good condition are put to hard labor. This treatment has been quite satisfactory. In this institution it has been found that they are easily handled during their hospitalization and they seem to adjust themselves more quickly, their appetites become quite ravenous, with a rapid gain in weight in a majority of the cases of treated addicts. It must be understood that no claim is made for a permanent cure in this treatment.

It is known that primarily opium and its derivatives depress the higher centers of the brain. They have diminished the finer sensibilities, such as pain,



cough, fatigue, hunger, discomfort, concentration and judgment. They also have a central vasomotor depressibility, thus causing the lowering of blood pressure and often a weak, irregular and rapid pulse results from long continued use of opiates. There is a peculiar complex peripheral action of these drugs. The peristalsis of the intestinal tract is slowed. There is a decrease in the defecation reflex; the skin, hair, and nails are dry and show undernourishment. The skin loses its usual healthy appearance, becomes dry, sallow and has little or no elasticity. Because of the peripheral action of these drugs upon the digestive tract and other viscera, the patient loses weight, becoming a physical wreck if he has been addicted any great length of time.

By observing the action of the strychnin sulphate upon these subjects, it will be noted that it reverses the action of opium and derivatives to a certain extent. It is a well known fact that strychnin increases the nervous reflexes or the reflex excitability of the spinal cord and medullary centers, and thus has a tonic effect upon the individual, not only is the tone of the general musculature improved but the respiratory and vasomotor centers are stimulated. The increased blood pressure following the administration is partly due to the action of strychnin on the vasomotor center, also improving the pulse. Peristalsis of the intestines is increased probably through the action of strychnin upon Auerbach's ganglia. Adrenalin, as we all know, is a stimulator of the sympathetic nervous system and raises the blood pressure through its peripheral action. It might have some little effect upon the endocrine system in a diluted dosage because of being an endocrine product itself. Whether this is true or not, the addict so treated gained weight rapidly in most cases. The writer has been quite interested in narcotic addicts who are so unfortunate as to be incarcerated in a penal institution of this type.

The following table gives rather a limited insight into the past life of 100 narcotic addicts, chosen at random, who

were personally interviewed by the writer. The writer has tried to show the type of drugs used by the narcotic addicts, the amounts, the reason why they began the use of narcotics, type of drug first used and how administered. It might be interesting to know that a large percentage of these addicts state that they first began the use of drugs either through prescriptions by physicians or administered by one for some acute condition. This one item should be taken for what it is worth, for an addict is a veritable prevaricator. It is also interesting to know that a large percentage of narcotic addicts began the use of drugs by first using opium for pleasure smoking. This is especially true among the older narcotic addicts and those who have used dope for a greater number of years. During these interviews it was shown that very few addicts began their addiction with the use of heroin; those who began with the use of heroin, in this institution are principally those of the Mexican race who arrived from the southern border, or what few are received from the larger eastern cities.

#### RECORD OF DRUG ADDICTS

On hand, year ending June 30, 1928.....	690
No former convictions .....	315
One former conviction .....	216
Two former convictions .....	100
Three former convictions .....	42
Four former convictions .....	9
Five former convictions .....	6
Six former convictions .....	2

Total. . . . . 690

#### Drugs Used:

Morphine only .....	571
Cocaine only .....	13
Heroin only .....	24
Opium only .....	24
Morphine and Cocaine .....	40
Morphine, Cocaine and Heroin .....	5
Morphine and Opium .....	9
Morphine, Heroin and Opium .....	2
Morphine and Heroin .....	1
Cocaine and Opium .....	1

Total. . . . . 690

Number under hospitalization .....	7
Number of hospital patients released .....	322
Number hospitalization unnecessary .....	361

Total . . . . . 690

# ANALYSIS ON ONE HUNDRED NARCOTIC ADDICTS CHOSEN AT RANDOM UNITED STATES PENITENTIARY, LEAVENWORTH, KANSAS

No.	Present age.	Years on Habit.	Drugs Used				Drugs Used at Start of Habit				Cause of Habit	How Cont'd				Narcoticism Cures.	Schooling			
			Opium Phuns Daily.	Heroin Grs. Daily.	Cocaine Grs. Daily.	Morphine Grs. Daily.	Opium.	Cocaine.	Heroin.	Morphine.		Liquor.	Injury.	Illness.	Operations.		No. of Convictions.	Grade.	High School.	College.
1	39	10	15							Mouth	1					1	1	7		
2	49	25	15					Sniff								1	8			
3	49	25	15				Smoke				1					0	1	4		
4	33	7	15				Smoke			Mouth	1					1	1	0		1
5	37	10	15							Hypo			1			1	2			
6	32	10	7						Sniff				1			1	0	1	3	
7	39	15	15													0	1	4		
8	45	18	10				Smoke			Hypo	1					0	1	2	3	
9	29	1 1/2	1							Hypo	1					1	1	4		4
10	59	29	15		15					Hypo				1		1	1			4
11	24	10	30							Mouth		1				1	1			4
12	25	5	12							Hypo		1				5	1	8		
13	18	1 1/2	12							Hypo	1					0	1	7		
14	29	10	5		5					Hypo	1					2	2	8		
15	28	10	12							Hypo			1			1	2	0		
16	30	6				1			Sniff			1				0	3	3		
17	24	2				3			Hypo		1					0	2	7		
18	33	10				2				Hypo					1	2	2	7		
19	32	1 1/2	1							Hypo	1					0	1	0		
20	27	1 1/2			1					Hypo				1		0	0	2		
21	37	10	8							Hypo				1		2	1	7		
22	38	8	8						Sniff		1					0	2	7		
23	39	18	8				Smoke				1					2	2		2	
24	38	15	60				Smoke				1					0	3	4		
25	31	8	8							Hypo	1					1	1			
26	30	3	1							Mouth			1			0	1	0		
27	37	20	40				Smoke					1				5	2	4		
28	48	8	4							Hypo				1		1	2	8		
29	57	27			30		Smoke				1					0	1	0		
30	24	4	6							Hypo			1			2	2	8		
31	43	27	15							Mouth				1		2	2	8		
32	24	1 1/2	2							Hypo			1			1	1	6		
33	60	31	21							Hypo				1		0	1	8		
34	33	19	15						Sniff		1					3	3	4		
35	44	5	10							Hypo			1			4	2	8		
36	47	20	8		8					Hypo			1			12	2	8		
37	34	20	60						Sniff			1				1	4	6		
38	58	34	10	10			Mouth				1					5	5	8		
39	49	29	8		10		Smoke						1			2	4	8		
40	46	10	10							Hypo	1					3	3	4		
41	42	18	5							Hypo	1					2	3	3		
42	41	20	8	8					Sniff		1			1		2	3	2		
43	50	26	10	10		10	Smoke					1				5	1		2	
44	32	1 1/2	8							Mouth		1				0	1	8		
45	34	11	8							Hypo			1			0	3	1		
46	47	6	5							Hypo			1			0	1	8		
47	35	8			25		Smoke						1			1	2		3	
48	27	8	10		10		Smoke				1					1	2		2	
49	53	36	15	15			Smoke				1					2	3		2	
50	37	17	10	10	10	10				Hypo		1				12	7	8		
51	33	10	8							Hypo				1		0	2		2	
52	46	7	4							Hypo			1			0	3	5		
53	30	7	4							Hypo			1			0	2	8		
54	33	17	10		8				Sniff		1					3	1	8		
55	50	11	10	10		10	Smoke					1				0	1		1	
56	33	10	2							Hypo					1	2	3	8		
57	47	30	8	4		4	Smoke					1				1	1	8		
58	44	27	4	4		4					1					2	1	5		
59	46	10	4		1		Smoke					1				1	1	0		
60	40	1 1/2								Hypo				1		0	1	8		
61	47	24	5							Hypo					1	0	1	8		
62	28	1	2	2						Hypo	1				1	1	1	8		
63	29	10	6		6		Smoke					1				0	2	8		
64	32	10	10		5		Smoke					1				1	1	5		
65	34	7	4	4	8					Hypo	1					0	1	4		
66	43	24	5	5	5		Smoke					1				1	1	8		
67	24	2	2							Hypo				1		0	2	8		
68	51	8	8							Hypo	1					1	1	4		
69	35	11	10	10		10			Sniff			1				1	1	8		
70	33	5	4		3				Hypo				1			1	2	8		
71	44	16	10		10	30	Smoke				1					2	2		2	
72	39	12		5	5					Hypo	1					5	1	5		
73	29	6	8	8	8					Hypo			1			0	1	6		
74	41	15	5							Mouth		1				30	4	8		
75	36	14	10	10					Hypo		1					1	1	0		
76	29	1 1/2	5							Hypo		1				0	1	8		
77	39	10	4		4	4	Mouth						1			2	1	7		
78	40	10	5	5	5	5	Smoke					1				0	2	0		



No.	Present age	Year on Habit	Drugs Used			Drugs Used at Start of Habit				Cause Habit	How Cont'd		No. of Convictions	Schooling	
			Opium	Phans	Daily	Opium	Cocaine	Heroin	Morphine		Given by Drs. During	Operation		Grade	College
79	64	1	1	1	1	1	1	1	Hypo	1	1	1	0	1	4
80	36	18	10	10	5	1	1	1	Hypo	1	1	1	2	3	1
81	29	9	5	5	1	1	1	1	Sniff	1	1	1	2	2	8
82	36	19	10	10	10	1	1	1	Smoke	1	1	1	30	4	4
83	42	13	5	5	10	1	1	1	Smoke	1	1	1	3	3	8
84	33	14	12	12	1	1	1	1	Hypo	1	1	1	1	1	8
85	31	12	5	5	5	1	1	1	Mouth	1	1	1	3	2	3
86	20	1	1	1	1	1	1	1	Hypo	1	1	1	0	1	0
87	35	1	1	1	1	1	1	1	Hypo	1	1	1	0	2	8
88	59	39	5	5	5	1	1	1	Smoke	1	1	1	3	1	4
89	41	11	8	8	1	1	1	1	Hypo	1	1	1	1	3	8
90	35	15	4	4	1	1	1	1	Mouth	1	1	1	2	1	5
91	37	4	16	16	1	1	1	1	Mouth	1	1	1	0	2	8
92	33	4	6	6	6	1	1	1	Smoke	1	1	1	1	1	8
93	33	5	3	3	2	1	1	1	Smoke	1	1	1	2	3	2
94	28	1	3	3	3	1	1	1	Hypo	1	1	1	2	3	0
95	34	10	5	5	5	1	1	1	Smoke	1	1	1	1	2	8
96	45	4	4	4	1	1	1	1	Hypo	1	1	1	2	2	2
97	41	5	4	4	4	1	1	1	Hypo	1	1	1	2	2	8
98	24	1	1	1	3	1	1	1	Sniff	1	1	1	0	1	6
99	39	15	12	12	1	1	1	1	Hypo	1	1	1	2	2	8
100	46	10	6	6	1	1	1	1	Hypo	1	1	1	0	2	7
T't'l 3803 1345 11 11 11 11 11 11 11 11 28 29 8 19 12 14 205 193 442 165 58															

50% used morphine.  
 5% used heroin.  
 3% used opium.  
 10% used morphine and cocaine.  
 9% used morphine and opium.  
 7% used morphine, cocaine and opium.  
 5% used morphine and heroin.  
 4% used morphine, cocaine and heroin.  
 3% used morphine, heroin and opium.  
 3% used morphine, cocaine, heroin and opium  
 1% used cocaine and opium.

29% contracted habit thru thrill and adventure.  
 28% contracted habit thru environment.  
 8% contracted habit thru liquor.  
 35% contracted habit thru drugs given by doctors.

46% began habit using morphine by hypo.  
 9% began habit using morphine by mouth.  
 27% began habit using opium by smoking.  
 3% began habit using opium by mouth.  
 8% began habit using heroin by sniffing.  
 2% began habit using heroin by hypo.  
 3% began habit using cocaine by sniffing.  
 2% began habit using cocaine by hypo.

Average age of beginning habit 24 years 6 months.  
 Average years on drugs 13 years 5 months.  
 Average schooling 6 years 6 months.

## KANSAS MEDICAL LABORATORY ASSOCIATION

### Certain Public Health Problems of Oregon

WILLIAM LEVIN, D.P.H.

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It has been stated that man is man's most dangerous enemy. The ever-increasing number of diseases traceable to insect and animal hosts and transmissible to man may seriously question the soundness of this statement. Every climate, every country, it may be said, almost every state has its own peculiar disease problems; and among the diseases which are of great interest to the Northwest, and particularly to Oregon, are those which are transmissible by insects and animals.

Oregon has two rather sharply defined

sections based on the density of population. One section consists of fourteen counties of the northwestern part of the state, and has an average density of population of 40.1 persons per square mile. The other section is sparsely populated; in fact, parts of it are unpopulated. It includes twenty-two counties, with an average density of population of 3.4 persons per square mile. Based on climatic conditions the state is also sharply divided into two sections—that which lies east of the Cascade Mountains, and that which lies west. The eastern portion of the state is arid, partly desert, and has an average annual rainfall of 15.42 inches. The western section, the coastal section, has a mild, even climate, and has an average annual rainfall of 52.83 inches.

One disease which has thus far been confined to Eastern Oregon is Rocky Mountain spotted fever, sometimes called tick fever. According to Spencer<sup>1</sup>, this is "an acute specific, non-contagious, tick-borne disease endemic in the north-western part of the United States. Clinically, it closely resembles typhus fever and is characterized by an onset with chill, continued fever, severe headache, pains in the bones and muscles, and a macular and sometimes maculo-papular eruption, which appears about the third day of the fever, first on the wrists, ankles and back, and then over the whole surface of the body."

The central part of eastern Oregon is the region in which the infection is mostly found, although cases have been reported in all sections east of the Cascades. The disease is found in the valley and is usually contracted in or near the mountains. The months of June, May and April are given in order of the frequency of the disease, but cases have been reported as early as February, and as late as September.<sup>2</sup>

There is some evidence, according to Spencer, that the disease reaches its greatest prevalence every seventh year, corresponding roughly to a similar increase in the number of rodents—chiefly rabbits. 1929 will undoubtedly mark the highest incidence of spotted fever ever recorded in Oregon. The number of cases and deaths since 1920 is given in Table I.

Table I. Rocky Mountain Spotted Fever in Oregon

Year	Cases	Deaths
1920	8	5
1921	13	7
1922	17	8
1923	15	4
1924	8	5
1925	18	2
1926	30	8
1927	26	7
1928	26	3
1929	67	10

*Dermacentroxenus rickettsi*, a gram-negative, pleomorphic intracellular, rickettsia-like organism, is generally considered the causative agent. This virus apparently requires a warm-blooded and a

cold-blooded host. One may, therefore, consider either the tick (*Dermacentor Andersoni*) or the susceptible rodent host as its source. The rodent population of eastern Oregon is unusually large, being favored both by climatic and geologic conditions and by the sparsity of human population.

The laboratory diagnosis of Rocky Mountain spotted fever may be made by the injection of the patient's blood into guinea pigs. Typical symptoms of the disease are reproduced. Spencer states that while the virulent form of the disease can usually be reproduced in the guinea pig, the mild type of the infection is more difficult to establish. Spencer and his co-workers have also found the Weil-Felix reaction present in the majority of cases of Rocky Mountain spotted fever tested by them.

A considerable number of persons in eastern Oregon have recently taken the vaccine developed by Spencer and Parker. Because of the very short time that the vaccine has been in use, its efficacy and usefulness are yet to be determined. It gives promise, however, of reducing both the morbidity of and mortality from this disease.

Another disease in which insects and animals play an important part in its dissemination is tularemia. As with Rocky Mountain spotted fever much of what is known of tularemia has been accomplished through the splendid work of the United States Public Health Service, particularly Dr. Edward Francis. The etiologic agent of tularemia is *Bacterium tularense*, a small, gram negative bacillus, first discovered by McCoy and Chapin in 1912, as the cause of a fatal. To a very large extent rabies also has been confined to that section. Undulant fever has been found in all sections of the state. The activities of the United States Biological Survey in the extermination of predatory animals have been fruitful not only in the saving of domestic stock, but also in the reduction of animal reservoirs of human-transmissible infections.

1. Spencer, R. R. "Rocky Mountain Spotted Fever." J. Infec. Dis. 44, 4, p. 257.

2. Strickler, F. D. "The Prevalency and Distribution of Rocky Mountain Spotted Fever in Oregon." Bull. Montana



State Board of Health, Spec. Bull. 26, June 1923.

3. Francis, Edward "Symptoms, Diagnosis and Pathology of Tularemia." J.A.M.A. 91, 1155. Oct. 20, 1928.

4. Bulletin Nevada State Board of Health, Nov. 1, 1928.

5. Figures furnished by Mr. S. G. Jewett, Leader Predatory Animal Control, Portland, Oregon.

R

## TUBERCULOSIS ABSTRACTS

For years, search has been made for some blood serum test that might indicate specifically the presence of tuberculous infection and that would vary consistently with different clinical or pathological stages of that infection. No reaction is yet known that satisfies both of these conditions. However, the tuberculo-complement fixation test, after several



Paul Ehrlich (1854-1915)  
Pioneer in Serology

years of uncertain status, has at last been so technically perfected and standardized that it has a very distinct value. Dr. James Wynn of the Indiana University Medical School describes this and other serological tests for tuberculosis. While a detailed knowledge of serological technique is not necessary, an understanding of the principles underlying this test is essential for the clinician who would interpret it judiciously.

### TUBERCULO-COMPLEMENT FIXATION

In tuberculous infection, the bacillary focus, acting antigenically through blood-stream absorption, tends to stimulate the patient's serum to the production of a thermostable substance commonly referred to as reagin or amboceptor. This substance is highly specific for the antigen. In the presence of complement (a thermolabile substance present in any fresh blood serum, whether normal or immune), this reagin will combine with both antigen and complement. If a tuberculous suspect's serum is mixed, in the presence of complement, with an

antigen specially prepared from boiled tubercle bacilli, the disappearance of complement from the mixture connotes antigen-reagin-complement union—which means that the suspected serum contained the tuberculosis reagin; *i. e.*, was positive. (This disappearance of complement is demonstrated, as in the Wassermann reaction, by mixture with a hemolytic system in which suspended erythrocytes are the antigen and serum hemolysin the reagin; if there is no hemolysis, it is clear that complement has been previously "fixed" by the tuberculosis reagin and the reaction is positive.) A quantitative technique and accurate titration of antigen make it possible to embody the foregoing immunological principles in a diagnostic test. It is necessary to parallel the test with the Wassermann reaction, since a positive tuberculo-complement fixation is of little significance in the presence of a positive Wassermann reaction.

Though in its earlier years tuberculo-complement fixation appeared to be of doubtful value, when skilfully performed the test now gives, within reasonable limits, distinctly reliable information. This demonstration of the test's true worth is due almost entirely to the work of such men as Petroff and Woolley in standardizing technique, antigen, etc.

According to Woolley, "With accurate technique, the reaction is positive in 60 to 80 per cent of cases, depending on the stage of the disease." Blood-stream absorption from the tuberculous focus is necessary to produce reagin production. And there must be sufficient absorption to stimulate an excess of reagin over the amount necessary to fix the lesion-produced antigen. (It is the failure of this excess which accounts for the low reagin curve in terminal stages of the disease.) It is apparent, therefore, that a positive reaction is of far from trivial significance and may be taken to mean activity in the sense that the focus is producing very definite systemic absorption. The fact that this absorption may be quantitatively insufficient to occasion symptoms or physical signs in a measure invalidates the test as an index to the extent of clinical activity. Nevertheless, a

strongly positive and persistent reaction is very suggestive evidence of impending if not actually existent clinical activity.

On the other hand, in a patient with definite symptoms and physical signs pointing to active tuberculous disease, a negative reaction by no means excludes tuberculosis; for, as previously stated, the reaction measures merely the *excess* of blood reagin (which is occasionally nil, *e. g.*, in overwhelming or terminal infections). The real usefulness of the negative reaction is in differentiating tuberculosis from such conditions as bronchiectasis, certain forms of chronic bronchitis, and interstitial pneumonia.

#### CELL SEDIMENTATION TEST

Several other recently proposed serological tests for tuberculosis may be briefly mentioned. A definite relationship has long been recognized between certain physiological and pathological states and the rate at which the cells in citrated blood settle on standing. Westergren (1921) observed what he believed to be a diagnostic type of sedimentation in pulmonary tuberculosis. The test requires so little apparatus and technical skill that it can be performed by any careful physician. Of the various techniques in general use, many of the best features are incorporated in the method of Cutler (1929) which is as follows:

After drawing 0.1 c.c. of freshly prepared sterile 3 per cent sodium-citrate solution through a 20-gauge needle into a dry, sterile 2 c.c. syringe, a vein is entered and blood drawn to the 1 c.c. mark. The syringe is then tilted gently back and forth to avoid clotting, and the mixture promptly injected into a Cutler tube. (These tubes have an internal diameter of 5 mm. and are marked in millimeters, beginning with zero at the 1 c.c. level, increasing downward to 50.) The tube is tightly stoppered until ready for reading. Its contents are then thoroughly mixed and the level of the settling cells noted every five minutes for one hour. These data are graphed (with the time in minutes and the level in millimeters). Cutler has described fairly characteristic curves for normality, pulmonary quiescence, slight to moderate activity, and moderate to marked

activity—the cell levels at 60 minutes for these groups being respectively 3, 15, 20, and 30 mm. Comparison of a patient's graphs from week to week is of distinct value in clinical management and prognosis. But the test is of little or no differential diagnostic value.

#### TEST FOR ANTIBODIES IN URINE

Assuming that in active tuberculosis antibodies would be eliminated in the urine, Wildbolz (1919) suggested that the urine of tuberculosis suspects might be tested for these by injecting concentrates of it into a known tuberculin-hypersensitive skin and comparing the cutaneous response with that occasioned by tuberculin controls. Lanz (1920) and Imhof (1920) applied fundamentally the same hypothesis to the development of a serum test. Numerous efforts to confirm these observations have led to an accumulation of statistical data that have thus far proved inconclusive.

#### FLOCCULATION TEST

The flocculation test of Daranyi (1922) is dependent on the fact that a substance (probably globulin) may be precipitated from a high percentage of tuberculous sera by an alcohol-salt solution mixture. Convincing evidence of its real diagnostic usefulness is lacking. Though positive in a very large number of advanced active cases, its value in picking up the early case of tuberculosis is practically nil.

#### PRECIPITIN TEST

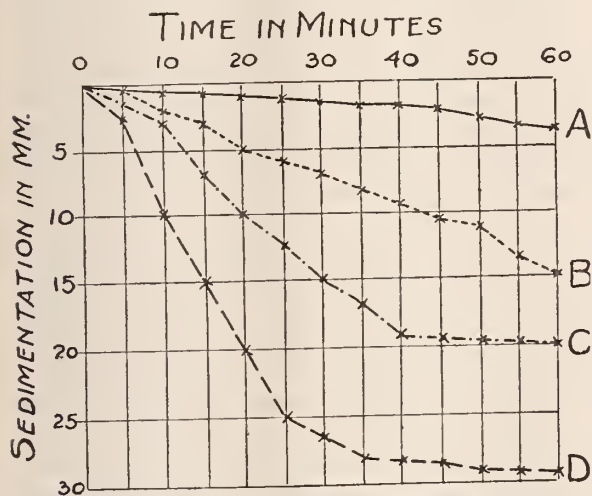
Agglutinin and precipitin reactions in tuberculosis have been very largely abandoned, since a general lack of specificity has militated against any possible clinical application. However, Doan, working with a tubercle-bacillus fraction furnished him by Anderson, has described very recently (May, 1929) a precipitin test which is promising. Though still entirely in the experimental stage, the test is of more than ordinary interest; for, if critical study eventually proves its value, its simplicity of technique might conceivably bring it into very general clinical use.

#### COMMENT

From the foregoing, it is obvious that today, at least, serological methods are of comparatively minor importance in



the diagnosis of tuberculosis. Even tuberculo-complement fixation merely furnishes confirmatory evidence for a diagnosis already made by the less technical but more fundamentally important means, such as the study of clinical his-



Cell sedimentation curves according to Cutler's method  
 A. Normal. C. Slight to moderate activity.  
 B. Pulmonary quiescence. D. Moderate to marked activity.

tory, physical signs, and sputum. In the words of Dr. Krause, "The laboratory diagnosis of the ordinary case of tuberculosis can be accomplished by simple methods in an ordinary physician's hands in an ordinary physician's office."

R

#### Intramuscular Injection of Adult Whole Blood as Prophylactic Against Measles

In a series of thirty patients from 6 to 42 months of age reported on by George B. Bader, New York (J.A.M.A., Aug. 31, 1929), from 20 to 30 c.c. of whole blood of persons recovered from measles from two to twenty-five years previously (except in one case in which 10 c.c. was used from a cousin three months' convalescent) was given intramuscularly. This blood, which was given within the first seven days following exposure, completely protected twelve patients, so far as escape of measles is proof of protection, and was followed in nine by a modified and attenuated measles without catarrhal systems. In eight patients, mild catarrhal symptoms were present. One

child had measles of moderate severity and she was the only one of the thirty known to have had Koplik's spots and a typical eruption. In the others in whom eruptions were present they were not characteristic. There was a distinct modification of the temperature except in two instances. There seems to have been a prolongation of the incubation in all except possibly four. There were no complications. He concludes that whole blood from adults long recovered from measles is an effective measure against measles. This report is suggestive and other similar reports in the literature lend corroborative evidence of the validity of the measure as a weapon to use to minimize the dangers from measles. It might be particularly efficacious for institutions where many cross-infections are often to be found when the serum from recently convalescent patients is not readily available, or in the age group under 5 years, in which 90 per cent of the deaths from measles occur, or in the weak and debilitated in whom the presence of measles might determine a fatal issue. If the disease could be prevented or modified in these instances, many lives might be saved and the mortality from measles appreciably reduced.

R

#### The Pediatrician's Formula

The first suggestion for the preparation of Mead's Dextri-Maltose came from pediatricians. Naturally their preference for this particular form of carbohydrate is back of its very conception. Dextri-Maltose brings mothers with their babies back to your office, not only because of its clinical results but because it satisfies the mother that her baby is receiving individual attention—that it is getting "a formula."

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# THE JOURNAL

of the

## Kansas Medical Society

W. E. McVEY, M. D. - - Editor

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### FACTS, FIGURES AND FANCIES

Occasion has been found at various time to mention in this column the increasing tendency of so-called leaders of thought, especially those in the medical profession, to speak in positive terms concerning matters much in question, subjects about which too little is really known to permit intelligent conclusions to be drawn. On the other hand there seems to be a growing tendency on the part of the scientific investigators in medicine to avoid definite conclusions and positive statements. This policy seems to be a safer one and is less likely to lead to embarrassment.

The rest of us are perhaps too ready to accept statements of facts as facts and to adopt ready-made conclusions that are sold or given to us. And we too frequently find that the statements of facts are misstatements and the ready-made conclusions are misfits.

When there are conflicting opinions on any subject it is safe to say that the facts known do not justify a definite conclusion, and that the greater the number of conflicting opinions the less actual knowledge of the subject is to be had.

Controversies, however, are sometimes maintained for purposes other than information, and concerning subjects about epidemic among ground squirrels in Tulare County, California.

Ticks, flies and rabbits are the great natural reservoirs of the disease. Francis<sup>3</sup> also mentions the woodchuck, coyote, ground squirrel, hog, and cat as sources of infection. The gopher and dog are also reported to have been responsible for the disease in man.<sup>4</sup>

Thus far there have been reported in Oregon six cases of tularemia, of which five were corroborated by serological tests. The sixth, from whom a blood specimen was not obtained, was a typical clinical case. Five of the six cases came from one county, Klamath, in the south central part of the state, and one from Baker county—both counties being east of the Cascade range. Four cases were bitten by "deer-flies," one by a tick, and one—a seven-year old boy—obtained his infection when dressing a jack-rabbit. Five of the cases were of the ulceroglandular type; the sixth, while giving a history of a primary lesion, resembled more the typhoid type of infection as classified by Francis<sup>3</sup>. The serum of two of the cases agglutinated *B. tularensis* in a dilution of 1-160; two, in a dilution of 1-320; and one in 1-640. All of the cases recovered.

The extent to which predatory animals may be responsible for the spread of insect-borne infections is not definitely known. Certainly, it is in conformity with established facts that many of these animals are vehicles for various infections and are hosts to ticks, flies, and other insects. The remarkable activities in Oregon of the United States Biological Survey, in the destruction of predatory animals have undoubtedly been of great aid in keeping animal and insect-borne disease to a minimum. From May 21, 1915, to June 30, 1928, the following animals were disposed of:

Coyotes .....	41,795
Bobcats .....	5,402
Timber wolves .....	28
Cougars .....	93
Porcupines .....	8,451



Miscellaneous animals ..... 7,793

The destruction of predatory animals has kept another disease of animal origin closely confined. Rabies was unknown in Oregon until 1912, when it was introduced from California. At the present time rabies in Oregon is endemic in the southern counties, and in the counties east of the Cascades. About a dozen outbreaks of rabies occur annually among domesticated animals. Since its introduction there have been reported four deaths in humans, although in only two could rabies be corroborated by post-mortem findings and animal inoculation.

The inciting agent of rabies is a filterable virus. It localizes chiefly in the central nervous system and in the salivary glands. The morphologic agent of rabies, discovered by Negri, is known as Negri bodies. They may be readily demonstrated in smears made from the hippocampus major (Ammon's horn), the cerebral cortex, and the cerebellum by the use of a polychrome stain.

While dogs are the most frequently infected, in Oregon the coyote undoubtedly is the leading reservoir of infection. Compared to the number of rabies-infected animals in other states of the Union, that in Oregon is small. In the five-year period, 1924-1928, out of 170 animal heads examined in the State Hygienic Laboratory, 62 were found to be rabid.

A disease which has recently received a considerable amount of study, undulant fever, is also to be found in Oregon. The disease was first recognized in 1928 in an outbreak occurring at the State Tuberculosis Hospital, and was shown to have been caused by the use of raw milk from the hospital herd. In this outbreak, as well as in all other cases where the epidemiological evidence was available, contagious abortion in cattle was the source of infection. It is estimated that about thirty per cent of the cattle in Oregon are infected with contagious abortion—in some herds the percentage is as high as eighty.

The organism causing undulant fever is a small, gram negative bacillus. Morphologically the organism cannot be differentiated from the one causing contagious abortion in cattle. Differentia-

tion of the *brucella* is made by means of agglutinin absorption tests. Since undulant fever may resemble typhoid fever in its symptomatology, all bloods received for the Widal test at the Oregon Hygienic Laboratory are also run for agglutination tests with the *brucella*.

Up to July 1, 1929, eighteen cases of undulant fever have been reported in Oregon, in all of whom the clinical diagnosis was confirmed by laboratory findings. These cases came from all parts of the state. One case terminated fatally. Because of the widespread infection in cattle, and also because of more critical and certain diagnoses, the number of cases of undulant fever may safely be expected to increase.

#### SUMMARY

Animal and insect-borne diseases in the Northwest, particularly in Oregon, present a problem in which both economic and public health aspects are involved. Because of peculiar geographic and climatic conditions the section of the state east of the Cascade Mountains has, thus far, been the only source of Rocky Mountain spotted fever and tularemia, which definite and conclusive data might be secured if sufficient time and effort were given to it. One such controversy that seems of sufficient importance to justify the adoption of some thorough system of investigation is the results of the enactment of the Sheppard-Towner Law as manifested in some definite way. The statistics so far available are practically meaningless. The fact that in certain sections where a campaign is conducted under the Sheppard-Towner Law there is a decreased maternal mortality does not establish the benefits of that law; nor does the fact that in sections where there have been no such campaigns there is an equal or greater decrease in maternal mortality prove the inefficiency of the law. If there are conditions in the expectant mother having a direct bearing upon maternal mortality

that can be eliminated by the methods followed in these campaigns, it should be possible to have these classified and specific and definite records of the incidence and relief of these conditions noted. From the reports of the activities under this law in one section where it is in force, it seems impossible that any of the methods followed could have any influence whatever upon the factors assumed to be responsible for the increase or decrease in maternal mortality. But in the first place it might be much to the advantage of the profession and the public to determine with some degree of certainty what factors are responsible for the high maternal mortality. It might be well, for instance, to determine to what extent the ignorance and inexperience of medical obstetricians is responsible.

At the forty-fourth annual Conference of State and Provincial Health Authorities of North America held in Washington, D. C., May 31, the president, Mathias Nicoll, Jr., M.D., delivered an address from which is quoted the following:

"To return to the question of the practice of obstetrics as influencing maternal mortality. While undoubtedly the lives of a great many pregnant women are sacrificed annually in this country on account of the inaccessibility of medical care, or the entire lack of it, when the fact is considered that a large part of these deaths—certainly more than half—occurs in cities and communities where doctors *are* available and *do* take charge of such cases, it is essential that the methods of obstetrical practice in this country be taken into account, however difficult it may be for health officers to ascertain the facts regarding them. No one will question the oft-repeated statement, especially by members of the medical profession that the teaching of obstetrics in most of our medical schools is totally inadequate. In many the instruction and experience afforded medical students is far less than that required of

midwives in those states which supervise their work and license them. Indeed in some of our medical schools the faculties have not departed from the original conception that the practice of obstetrics is hardly a man's job, and can be mastered apparently by inspiration or after the observation of a few normal cases, in the actual delivery of which the student takes no part. The medical schools then must be held directly responsible for the kind of obstetricians which are being turned out in many parts of the country. On the other hand there has arisen of late years a school of meddling obstetrics founded on the practice and teaching of certain unquestionably skilled obstetricians, the popularity of whose practice is undoubtedly based on the very natural desire of women to be relieved in so far as possible of the sufferings of childbirth, even though among the more intelligent there must be knowledge of the additional risk to their lives and health, as well as that of the child, which they must inevitably face. These men have little or no regard for the processes of parturition which nature has perfected and which cannot be improved upon in a vast majority of cases, yet some of them as a matter of routine resort to artificial methods of manual delivery, use instruments and perform cesarean operations on the slightest provocation, or with none at all. I have had occasion to analyze the results of this kind of practice and for one am ready to state that in the broader sense it constitutes malpractice, even though it cannot be legally so adjudged. As health officers, we are helpless to remedy this condition of affairs and it is time that the organized medical profession should be empowered by law and stand ready to clean house in the interest of the lives and health of prospective mothers in this country. If they do not do so, the health authorities will be obliged to perform the task with a weapon, always at their command—pitiless publicity."

In defense of the medical profession in Kansas, in which the general practitioners who are also obstetricians predominate, it is suggested that the complaint



be made more definite and specific. Such charges should not be made lightly, they should not be made at all unless there are indisputable data behind them. Let us have data to show for how many maternal deaths during a fixed period the attending obstetricians could fairly be held responsible; how many of these were occasioned by failures on the part of the obstetrician—failure to do something that should have been done or as it should have been done; how many of these were occasioned by meddlesome midwifery. Then let us have data showing the training and experience of these men, showing with each the number of maternal deaths and the extent of his obstetrical experience indicated by the total number of deliveries he has conducted. The inadequacy of the obstetrical training of medical students is not questioned, and that this is largely responsible for the high maternal mortality seems a logical conclusion. However, such a conclusion should not be reached until sufficient data have been accumulated to justify it. For in obtaining such data some apparently unexpected conditions are likely to be found. For instance, it is not unlikely that the largest per cent of maternal deaths occur in the practice of those obstetricians who have the greatest skill and the largest experience, for into their hands come and are referred most of the anticipated difficult labors and cases with dangerous complications. At any rate let us have the facts and then put the blame where it belongs.

Let us have some information as to how much obstetrical experience shall be regarded as adequate. In view of the fact that one may attend a fairly large number of cases without meeting anything but perfectly normal labors it seems pertinent to ask if obstetrical experience shall be determined by the num-

ber of deliveries conducted or by the variety of conditions observed.

From the different opinions advanced and the variety of obstetrical procedures advocated in certain conditions by the authors and teachers in obstetrics it appears that this is by no means a perfected art.

Perhaps all of the information requested is already available and in the hands of the Public Health authorities. For, according to the remarks of Dr. Nicoll, this very important section of the medical profession has already recognized the problem of maternal mortality as its own, has already placed the responsibility upon the obstetrical practitioner and threatened him with "pitiless publicity" for his short comings. Such charges, without sufficient evidence to support them, such threats as made by the president of the State and Provincial Health Authorities of North America do not tend to create a spirit of harmony or encourage co-operation between health authorities and practitioners of medicine.

We are fully aware that such views are not in harmony with current opinion. It seems to be the consensus of opinion with the leading teachers and authors in obstetrics that other, less perfectly trained and less experienced, obstetricians are in some way responsible for the high maternal mortality, and this is an attitude not infrequently met with in other affairs of life. It is very likely true, but in the evidence set out there are many facts that can be otherwise interpreted. We are told that puerperal sepsis is the greatest single cause of the high maternal mortality, but the causes of infection and aseptic methods are subjects fully discussed in so many departments of our medical schools that failure to observe proper precautions can hardly

be blamed upon poor obstetrical training alone.

While the blame for the high maternal mortality is laid upon the inadequate training of obstetricians of the general practitioner class the figures seem to show that the maternal mortality is higher in states where only licensed physicians are permitted to practice obstetrics than in states where a considerable percent of the obstetrical work is done by mid-wives. This is interpreted as meaning that medical obstetricians are less adequately trained than mid-wives, which of course is absurd. Before any rational interpretation of such statistics could be made, more information concerning the causes of death and the conditions involved should be obtained. Since the Public Health Service has recognized the high maternal mortality as its problem it seems appropriate that through its agencies a survey of the factors entering into the problem should be made.

#### PHARMACOPOEIAL CONVENTION

The United States Pharmacopoeial Convention will meet in Washington, D. C., to organize the work of revision of this official standard for drugs and medicines, on May 13, 1930. The convention is held every tenth year and the societies and organizations entitled to representation are named in the constitution and by-laws and it is necessary to amend these in order to admit new members. Amendments are first voted on by the board of trustees, then published in the medical and pharmaceutical journals and finally voted on by the convention in session.

The proposed amendments as they have been favorably voted on by the trustees and as they will be submitted to the convention next May, are printed below.

#### PROPOSED AMENDMENTS TO THE CONSTITUTION AND BY-LAWS OF THE UNITED STATES PHARMACOPOEIAL CONVENTION

The following amendments to the Constitution and By-Laws of the United States Pharmacopoeial Convention are recommended by the board of trustees for adoption by the convention at Washington, May 13, 1930. Words to be deleted are enclosed in brackets and words to be added are printed in italics:

#### CONSTITUTION

##### Article II

##### *Membership*

Section 1. The members of the United States Pharmacopoeial Convention, in addition to the incorporators and their associates, shall be delegates elected by the following organizations in the manner they shall respectively provide: Incorporated medical colleges and medical schools connected with incorporated colleges and universities; incorporated colleges of pharmacy, and pharmaceutical schools connected with incorporated universities; *departments of incorporated universities, which departments are devoted to scientific research in chemistry or in other lines related to chemistry or pharmacy*; incorporated state medical associations; incorporated state pharmaceutical associations; the American Medical Association; the American Pharmaceutical Association, the American Chemical Society, the National Association of Retail Druggists, (and) the National Association of Boards of Pharmacy, *and the Federation of State Medical Boards of the United States*; provided that no such organization shall be entitled to representation unless it shall have been incorporated within and shall have been in continuous operation in the United States for at least five years before the time fixed for the decennial meeting of this corporation.

*Medical and pharmaceutical associations and colleges of medicine and pharmacy in Hawaii, Porto Rico, the Philippine Islands and in the Republic of Cuba (where the pharmacopoeia of the United States has been adopted as the official pharmacopoeia) shall likewise be entitled*



to representation by delegates on the same basis as the other associations and colleges mentioned in this section.

Section 2. Delegates appointed by the surgeon-general of the United States Army, the surgeon-general of the United States Navy, and the surgeon-general of the United States Public Health Service, the secretary of agriculture, the secretary of commerce, the Association of Official Agricultural Chemists, the Association of American Dairy, food and drug officials, the National Wholesale Druggists' Association, the National Dental Association, the American Drug Manufacturers' Association, the American Pharmaceutical Manufacturers' Association, the Federal Wholesale Druggists' Association, the United States Division of Customs, \*(and the University of Havana) and by the organizations not hereinbefore named which were admitted to representation in the Convention of 1900, shall also be members of the corporation. Each body and each branch of the United States Government above mentioned shall be entitled to send three delegates to the meetings of this corporation. But no such delegates as are provided for in this article shall be members until their credentials shall have been examined and acted upon as provided for by the By-Laws. Delegates admitted as members at any decennial meeting shall continue to be members of the United States Pharmacopoeial Convention until their successors shall have been appointed and admitted as delegates to the ensuing convention and no longer.

## Chapter VII

### BY-LAWS

#### *of the Committees on Credentials and Arrangements*

Article I. The Committee on Credentials (and Arrangements) shall consist of five members and shall be appointed by the president from among the delegates to the decennial meeting, not less than two months before the meeting. *The chairman of the board of trustees shall*

*be a member ex officio of the Committee on Credentials.*

Article II. It shall be their duty to examine carefully the credentials of all delegates. *Credentials issued in blank, leaving the names of the delegates and alternates to be inserted subsequently by other than the regularly constituted officers of the appointing associations or institutions, shall not be accepted as meeting the requirements of this chapter.* Immediately before the meeting of the convention they shall furnish to the president a roll containing the names of the incorporators, the officers of the convention, the board of trustees, the general committee of revision and of those delegates whose credentials are unquestioned and approved. They shall also make report to the convention concerning all credentials which have been questioned, or appear to them to be of doubtful validity.

Article III. (This committee shall continue in office until their successors are appointed.) *The Committee on Arrangements shall consist of five members residing in or convenient to the city of Washington, D. C., and appointed by the president, and shall be charged with the duty of making the necessary arrangements for holding the said decennial meeting. The president, secretary and assistant secretary of the convention shall be ex officio members of the committee.*

## Chapter IX *of Meetings*

Article 1. The regular decennial meetings of the convention shall be held upon the second Tuesday in May every tenth year as provided in the Constitution and the place of meeting shall be in the city of Washington, D. C., *unless, in case of emergency, the board of trustees and officers of the Convention, by joint vote, shall select some other place of meeting and some date within the same year other than the second Tuesday in May.* See Constitution, Article V. Twenty-five members shall constitute a quorum.

Article II. Section 4. Report of the chairman of the board of trustees, the secretary of the board of trustees, (and) the treasurer of the convention *and the*

\* Note: It being understood that the University of Havana will be included as a part of the representation accorded to the colleges and associations of the Republic of Cuba and that the elimination of the words "and the University of Havana" is recommended only in the event of the adoption of the new amendment to Section 1.

*chairman of the Committee on Revision.*

Section 5. The reports of the Committees on Credentials and Arrangements shall then be considered.

#### A QUESTIONNAIRE

With each revision of the pharmacopoeia there is more or less wonderment expressed because some more or less commonly used drug has been omitted. It is possible that members of the profession might render considerable service to the revision committee if they would take advantage of the opportunity now offered them and communicate such facts as may be in their possession concerning some of the drugs in question.

The committee has prepared a questionnaire for this purpose and will send them to any one sufficiently interested to write E. Fullerton Cook, 636 South Franklin Square, Philadelphia, Pa., who is chairman of the committee on revision.

#### CHIPS

A few cases of empyema and of bronchiectasis treated by injections of neosalvarsan have been reported by Hans Edel. In empyema from 0.45 g. to 0.6 g. dissolved in 10 c.c. of distilled water was injected into the pleura after first aspirating the pus. The pleura appears to be very tolerant to neosalvarsan. He has also used similar solutions in the treatment of bronchiectasis by the method used for the introduction of lipiodol, after cocaineizing the trachea it is injected through a laryngeal catheter. Good results are claimed in the few cases reported. The method will not recommend itself for general use in such cases, however, until further investigations have been made and more clinical evidence has been furnished.

Between the cults, licensed and unlicensed, that are practicing medicine and the nurses to whom is now delegated much of the work that should belong to the medical profession, a considerable part of the people get no better medical service than they had before the medical

schools were standardized and medical education put on its present high plane.

After completing over six thousand seven hundred thyroid operations Lahey has given some conclusions reached from his experience, *New England Journal of Medicine*, May 2, 1929. He states his mortality in 1927 was 0.6 per cent and in 1928 was 0.28 per cent. His records show that the pre-operative employment of iodine has practically eliminated preliminary pole ligation. He states that there are practically no thyro-cardiacs in which the decompensation is due to a superimposed thyroidism that are not operable. In thyroidism associated with tuberculosis or with diabetes, subtotal thyroidectomy markedly assists in controlling the associated condition. Any parathyroid glands accidentally removed during operation should be found and immediately grafted into a sternomastoid muscle.

Some years ago there was a great deal to be said about the economic loss occasioned by intemperance. Little is heard on that subject now, from the same sources at any rate, but the cost of liquor is ten times what it was then and as to the amount consumed one can only read the newspapers and decide which guessers to believe. It seems to be generally conceded, however, that since the adoption of the Eighteenth Amendment there has developed in this country an industry of mammoth proportions in which enormous sums of money are involved—the bootleg business. It is an industry that could be destroyed overnight by repealing the government tax on alcoholic beverages and ceasing all efforts to enforce the prohibitory laws, because there would be no profit in the bootleg business. Without considering the legal or moral status of the business, would its destruction produce as great a financial crisis as the destruction of any other industry that keeps an equal amount of money in circulation and an equal number of men employed?

A study of diaphragmatic hernia is reported by Greenwald and Steiner in the August number of the *American Journal of Diseases of Children*. Their conclu-



sion is that diaphragmatic hernia is not as infrequent as is generally believed. The clinical diagnosis is difficult because of the variety of symptoms that may be presented. In the eighty-two cases studied, six were diagnosed clinically, twenty-one were diagnosed by routine roentgenologic studies and forty-seven were diagnosed at autopsy. Diaphragmatic hernia is more often confused with pleural effusion than with any other condition, especially in older children. The introduction of an aspirating needle into the chest cavity in the presence of a diaphragmatic hernia is not a harmless procedure, death may result. In the newborn infants a combination of circulatory and respiratory disturbances with difficulty in swallowing and vomiting should suggest diaphragmatic hernia. In the new-born it may be confused with intracranial hemorrhage, pyloric stenosis, congenital atelectasis of the lung, atresia of the esophagus and dextrocardia.

Romanis reports some observations on 500 consecutive operations on cases of Graves' disease, in the *Lancet*, July 20. There were one hundred and five hospital cases and of these, four died, giving an operative mortality of 3.8 per cent. Three hundred and ninety-five were private cases and of these, six died, giving an operative mortality of 1.5 per cent or a total operative mortality of 2 per cent. He suggests that those cases, and only those cases, should be classified as Graves' disease where in addition to the signs and symptoms so well known to represent thyroid toxemia there are also definite enlargement of the heart and definite changes in the eyes. Those cases which have no enlargement of the thyroid do not show as much improvement after thyroidectomy as ordinary cases. It is possible that in such cases other of the ductless glands are involved.

Warren has an article in the *Lancet*, July 6, in which he discusses some of the influences upon the mortality rate in appendicitis. He says that appendicitis is developing a more severe character or is more common. There is a considerable variation in its severity and in

the mortality which he says in his experience varies from 3 to 10 per cent. He is not much in favor of the expectant treatment, especially is this treatment objectionable in children, in whom the mortality is greatest. "Early diagnosis and immediate operation are counsels of perfection." He admits, however, that early diagnosis is not always possible, especially in children and old people who are frequently not seen by the doctor until a well marked peritonitis has developed. The main causes of death in appendicitis are peritonitis and mechanical obstruction.

Those who seem to be greatly interested in the subject of birth control, particularly those in the medical profession might, with profit to themselves and the public, go more deeply into the subject than the discovery of methods for the prevention of conception. A scientific study of the factors influencing fecundity and sterility may bring to light better methods of regulating the character as well as the number of offspring than have yet been suggested. It is said that a male whose semen contains less than sixty million spermatozoa per cubic millimeter is practically sterile. It is not impossible, in spite of statements to the contrary, that both the number and vigor of the sperm cells may be influenced by the character of the diet and experiments that have been conducted upon animals by various investigators seem to prove that such is the case. Less seems to be known as to the factors involved in the fecundity of the female but that it may be increased under certain conditions is indicated.

A very interesting discussion of the results of turtle-vaccine therapy in the prophylaxis and treatment of tuberculosis may be found in the *Lancet*, July 6, in a report of a meeting of the Tuberculosis Association held at Cambridge, June 27. Dr. Frank Nagelschmidt submitted some valuable statistics and clinical data. In Hungary, he stated, more than 15,000 patients have been inoculated with turtle vaccine and the death rate from tuberculosis has been lowered 60 per cent. In Pest-erzsebet, in 1925, 1926

and 1927, 4812 cases of tuberculosis in the first stage were treated, and of these twelve died, 9 became worse and the remainder were cured; 216 cases in the third stage were vaccinated, and of these 67 died, 23 became progressively worse and 109 cases resumed their work. One hundred and twenty-five cases in the third stage were not treated with vaccine; and of these 115 were dead, 10 became worse and not a single case improved. About three million cases have now been treated with turtle-vaccine in various countries and Nagelschmidt suggests that much of the expenditure and disappointment in the campaign against tuberculosis could have been avoided if turtle-vaccine therapy had been used systematically since its discovery by Friedmann.

Turtle vaccine, which was first announced by Friedmann in 1912 was made from a species of living tubercle bacilli which was avirulent for warm blooded animals; but it could live long enough in the human body to produce lasting immunizing effects. Only one stock of turtle tubercle bacilli has so far been found that meets all the requirements for a vaccine. This was grown in 1903 from the tuberculous lungs of a sea-turtle with spontaneously acquired tuberculosis. This stock, it is claimed, has not changed biologically since its original culture. Its characteristics of growth on artificial media, its immunizing action against bovine and human tuberculosis in warm blooded animals, and its favorable therapeutic effects on early tuberculosis, have not changed. The turtle tubercle bacillus was non-pathogenic in the bodies of warm blooded animals and it could be kept alive in animal or human bodies for many months.

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### PERSONALS

According to newspaper reports Dr. Logan Clendening has been sued for \$20,000 by Miss Nora Kelly for unlawfully using her picture in his book called "The Human Body."

Dr. Chas S. Huffman a former president of this Society, has been reappoint-

ed for a term of four years as a member of the State Board of Administration.

It was recently stated by one of the daily newspapers that Governor Reed has asked for the resignation of Dr. C. J. McKnight of Wichita as a member of the State Board of Medical Examination and Registration.

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### MEDICAL SCHOOL NOTES

Dr. L. A. Calkins has recently been appointed head of the Department of Gynecology and Obstetrics. Dr. Calkins is from the University of Virginia Medical School and held the same position there.

Memorial Hospital. Dr. T. J. Sims, Jr., Dr. Jesse Potekin, Minnesota University, is serving internship at the Bell University of Virginia Medical School, has been appointed resident in Gynecology and Obstetrics.

At the meeting of the Missouri Valley Medical Society, Iowa City, Iowa, September 26 to 28, Dr. Thomas G. Orr talked on the Treatment of Peritonitis, Dr. Logan Clendening talked on Physical Diagnosis and Dr. Frank C. Neff on Some Unusual Clinical Manifestations in Children, with lantern slides. Dr. Ralph H. Major was president of this association last year.

Dr. Frank C. Neff attended the Central State Pediatrics Society meeting at Milwaukee, Wisconsin, September 27 and 28.

Dr. Thomas G. Orr has recently returned from a hunting trip in Arizona. He claims to have bagged a large, black bear.

Three men have recently been appointed as assistants in the Dental Surgery Department in the Out-patient Department of the Bell Memorial Hospital; they are Drs. James A. Elliott, Cliff R. Cline and J. Edward Joy.

Dr. H. R. Wahl read a paper on Gall Bladder Disease and Dr. Ralph H. Major read a paper on Nephritis at the meeting of the Wisconsin State Medical Association, Madison, Wisconsin, September 12.

Dr. Orlin Longwood, assistant in Pathology Department, has accepted a posi-



tion in Pueblo, Colorado. Dr. Samuel Katz, Wisconsin University has been appointed to this position.

—R—

## DEATHS

Morris A. Millard, Topeka, aged 81, died July 13 of chronic heart disease. He graduated from University of Buffalo School of Medicine in 1873.

Joseph Wakefield Myers, Elkhart, aged 43, died in August of carcinoma of stomach. He graduated from University of Kansas School of Medicine in 1913.

Francis L. Keeler, Treece, aged 70, died July 17 of heart disease. He was licensed in 1901.

Lewis Lindsay Dyche, Jr., Utica, aged 33, died April 29 of acute nephritis. He graduated from University of Kansas School of Medicine in 1919. He was secretary of the Rush-Ness County Medical Society.

Benjamin M. Barnett, Kansas City, aged 74, died September 4 of heart disease. He graduated from Jefferson Medical College in 1882. He was on the staff of Bethany Methodist Hospital. He was a member of the Society.

Dr. Geo. S. Wilcox, Mulvane, aged 56, died in his office October 2 from cerebral hemorrhage. He graduated from Kentucky University Medical Department, Louisville, in 1904. He was a member of the Society.

—R—

## BOOKS

Surgical and Medical Gynecologic Technic by Thomas H. Cherry, M.D., Professor of Gynecology, New York Post-Graduate Medical School and Hospital, etc. Published by F. A. Davis Company, Philadelphia. Price \$8.00.

This is not a text book on gynecology, but is prepared for the guidance of practitioners in the treatment of his gynecologic cases. Operative procedures are carefully described and illustrated. Only one operation is described for each condition. In the medical treatment the author leans to electro-therapy. In all parts of the work the illustrations show careful preparation and aid the reader very materially in fully understanding the descriptions given.

Minor Surgery. Frederick B. Christopher, M.D. Associate in Surgery at Northwestern University Medical School, Chicago. With a foreword by Allen B. Kanavel, M.D., Professor of Surgery, Northwestern University Medical School. Octavo of 694 pages with 465 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Price \$8.00 net.

The author describes the best procedure in minor surgery. He gives very careful details and illustrates the methods so that they may be easily followed. It should be a most serviceable book covering as it does the treatment of the cases that usually fall into the hands of the general practitioner and must be treated by him. Apparently nothing in this line has been omitted.

Varicose Veins with special reference to the injection treatment by H. O. McPheeters, M.D. Published by F. A. Davis Company, Philadelphia. Price \$3.50.

The author is director of the varicose vein and ulcer clinic of the Minnesota General Hospital and has prepared this work after careful observation of approximately eight hundred cases treated. He says the excision of varicose veins has proved unsuccessful in a large percentage of cases. He describes the injection treatment and the results he has observed.

Conquest of cancer by radium and other methods by Daniel Thomas Quigley, M.D. Instructor in surgery, University of Nebraska College of Medicine, etc. Published by F. A. Davis Company, Philadelphia. Price \$6.00.

Dr. Quigley has produced a book on cancer that should awaken the interest and stimulate the curiosity of the general profession. He strikes one as being perhaps a little too optimistic and possibly too confident, but having acquired his point of view, one must admit the soundness of his position. He says: "Only within the last few years have we been able to uncover the fact that something exists in cancer besides the terminal, fatal, bleeding, paining, stinking stage. Within the last few years we have been able to follow events through from the infliction of certain insults to tissue to an exaggerated defense mechanism which builds up an exaggerated mass of new cells, through a period when these cells become parasitic and prey upon the vital parts of the host, eventually causing

death." His optimism is best shown in a few phrases picked up as one goes through his introductory remarks. "The only thing necessary for the control of the disease being the control of the factors that lead up to the development of the disease. Cancer instead of being a complex thing of which we know nothing is a very simple thing of which we know a good deal. We probably know more about cancer than about any other chronic disease. Instead of being hopeless from the standpoint of cure it is probably the most easily and surely curable of any of the chronic diseases."

Preventive Medicine, outline of, prepared under auspices of the committee on public health relations, New York Academy of Medicine. Published by Paul B. Hoeber, Inc., New York. Price \$5.00.

It is suggested in the foreword of this book that the attitude of the general practitioner toward preventive medicine is not exactly enthusiastic, and the methods and results belong to the family and school authorities as much as to the doctor. Two lines of action are recognized, preventing the contraction of disease and preventing the development of serious symptoms of disease contracted. The importance or value of periodic health examinations is stressed and the form adopted by the A.M.A. is reproduced. The publishers and the authors should be commended for the production of this book.

A Study of Masturbation and the Psychosexual Life by John F. W. Meagher, M.D., Neurologist to various hospitals. Second edition. Published by William Wood & Co., New York. Price \$2.00.

It is generally conceded that there is too little knowledge of sex manifestations, and there is no doubt that there is at this time a good deal of misinformation since sex seems to have become a very popular subject for discussion. This book presents the subject from a scientific viewpoint and should be of considerable value to the physician in interpreting some of the perplexing mental and physical disturbances he is sure to see.

Sterilization for Human Betterment by E. S. Gosney, B.S., L.L.B., and Paul Popenoe, D. SC. Published by the Macmillan Company, New York.

This book contains a summary of the results of 6000 sterilizations in California. The need for sterilization of the

unfit is pretty generally recognized, but the authors have presented the matter in a very convincing way. The best methods are described as well as the conditions for which the operations should be done.

Materia Medica and Therapeutics by Reynold Webb Wilcox, M.D., etc. Twelfth edition. Published by P. Blakiston's Son and Company, Philadelphia. Price \$5.00.

This book has been revised in accordance with the United States Pharmacopoeia X. All the official preparations are described and a goodly number that are not official but are in general use. Considerable attention has been given to pharmacologic action and therapeutic uses of the remedies described. The classification is practical and convenient.

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### Physical Diagnosis

LOGAN CLENDENING, M.D.

Kansas City, Mo.

Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

This paper, on a very commonplace and old-fashioned subject, is the result of reflection over my experience of nearly twenty years of teaching physical diagnosis. Naturally in that time I have had opportunities of watching not only students, but internes, consultants, fellow practitioners and myself making mistakes in diagnosis. I want to present to you this morning the result of my experience in this subject. I want, in short, to summarize the main reasons why, in my opinion, people make mistakes in diagnosis.

I say mistakes in diagnosis, not physical diagnosis, because in my experience most mistakes that are made in diagnosis are made *not* because some laboratory examination has been neglected or has been made incorrectly, but because enough time was not spent upon the history and the physical examination of the patient.

The real anchor of a diagnostic procedure is the combination of history and physical examination. These hold you, as an anchor does, to reality. What the patient tells you first, and second what you can see and feel and hear—these things are what determine not only your opinion of the nature of his trouble but also what you are going to do about it—your therapeutics.

I have frequently been called into consultation in a small town to find the physician in a great state of perturbation because he was meeting a city consultant and has not carried out some mechanical procedure he thinks the city consultant must have. "You know we can't get an electrocardiograph here." "I'm terribly sorry I haven't made a

Wassermann test." "You'll probably want to know her basal metabolism, but I haven't got it." Nonsense. These things are of little importance—what do these machines tell us that we cannot find out much better by using our own wits. I confess to having learned a great deal from them: for instance, I studied the principles of electrocardiography and learned much about the heart's action in health and disease. But the most valuable thing the study of the electrocardiographs taught me was to incorporate this knowledge into my routine physical examination. To transfer it into terms that could be applied to the palpation of the pulse. I think every mechanical device teaches us something—but the man who does not learn its lessons and learn to free himself from the device—who does not teach his eyes and his ears and his fingers to do what the machine does—has not learned its most important lesson.

I tell my students in physical diagnosis that it is the most important subject in their curriculum for three reasons:

First, because it is diagnosis by one's own senses. The instruments of physical diagnosis you will always have with you—your fingers, your eyes and your ears. If you were cast up naked on a desert island, you could still be the scientific medicine man of the native tribe, provided you were a skilful physical diagnostician.

Second, because it is an art, not a science. It is an applied art. Naturally so—it is the education of your senses to do certain things. To an art there is no end. You will always be learning something about physical diagnosis. You will never be perfect. It is the one thing you can never turn over to an assistant. Any more than Paderewski could turn over his piano to an assistant for a recital. You will always have to practice. Just

as Paderewski always had to practice.

Third, because everything you ever learn—about anatomy, physiology, pathology, symptomatology, chemistry, bacteriology—will make a better physical diagnostician of you. Everything you can learn will train your mind to direct your fingers and your eyes and your ears. Anybody can learn to do a mechanical procedure—and in a short time do it just as accurately as the most experienced. A twenty-year-old girl in the laboratory of your hospital can probably make a good deal more accurate blood count than William Osler could have made. And a blood count or an entire set of laboratory examination has a corresponding importance in a diagnostic procedure. The knowledge of how to do a laboratory examination has no source of growth: it is not alive. Your knowledge of physical diagnosis should be alive, it should grow—with every patient you see, every paper you hear at a medical society, every article or book you read.

With this preliminary let us now consider the causes of mistakes in physical diagnosis which are most frequently met and which are the most disastrous. They are five:

The first is the finding of physical signs which are not present. By all odds the most frequent and most disastrous cause of mistakes in a physical examination! *Not*, mind you the failure to find signs that *are* present. Everybody is afraid of that. Everybody has been warned against that. Everybody is in deadly fear that some later examiner will detect some sign they have missed. But such mistakes of omission are not very serious.

It is the over-industrious or over-alert, or over-conscientious fellow who finds a heart murmur in a normal heart, or a rale in a normal chest, or an enlarged spleen which is not there, who gets the patient into trouble. Because then the fellow with the murmur is turned down for life insurance and goes on and lives thirty years, during which time he could and should have had protection. Or the fellow with the rale is uprooted from his business and sent to a sanitarium for a year to heal a tuberculosis that never

was. (I wonder how many thousands of times that has happened in the past few years—how many million years of human life doctors have wasted this way.) And the fellow with the big spleen is made melancholy and goes home to await the development of a leukemia which does not arrive—so he changes doctors.

Oh! these things are disastrous all right. In more ways than one. A particular case I saw last year comes to mind. A patient had an intermittent heart block for which no cause could be found. She had a negative Wassermann. The surgeon said she had very bad pus tubes and infected ovaries. After a bed rest period the physician thought her heart was in good enough shape to stand the removal of the infected organs in the pelvis. It was thought this pelvic infection might be the cause of the heart block. But when she was opened up, the tubes and ovaries were as movable and as free from evidences of inflammation as even the most hardened gynecologist could wish. But the operation—based, you see, on finding physical signs which were not present—threw her back into a state of decompensation from which it took six months to recover.

The most fatal fact about finding a sign that is not present is that you are committed to something. Either at the autopsy or at the operation or in the future.

Why do we make these mistakes so frequently? There are several reasons. First, I think, is lack of self-assurance. There is a funny sound there—maybe it's a murmur—better call it a murmur. You see, the fellow who thinks that way does not really know a murmur when he hears it. He never got acquainted with real murmurs. The second reason I suspect, is that we are afraid somebody else—one of our rivals—will find a sign we have missed. So we beat the rival to it by finding all the signs there are. It takes just as much courage to say "no" as to say "yes." And judgment, too. Thirdly, the patient leads us astray. He has so many symptoms that we feel we must discover something to account for them. Is it possible for a person to be as fatigued as this patient claims to be and



have no tuberculosis? Or that dreadful pain in the abdomen—one hardly has the face to say that there is not only no tumor but not even any rigidity there, does one?

Think this item over carefully. See if you do not agree with me that this is the most frequent cause of serious mistakes in diagnosis.

Second, the second most frequent cause of mistakes in diagnosis is to accept someone else's word for an essential part of the examination.

I can tell a story to illustrate this. A little girl began to run a temperature. She was taken to a hospital where all sorts of examinations were made. Everything was found normal, so it was decided she had otitis media. And the ear drum was opened. But the temperature did not come down. Finally a specialist came from a distant city. But before he decided to operate he inquired into the condition of the urine. The laboratory had reported on five specimens—all normal. But when the consultant from the distant city looked at a specimen himself he found it was loaded with pus. Even a catheterized specimen had pus. The baby had pyelitis. But if somebody besides the laboratory technician had not looked—just *looked*, you see, no complicated technical, chemical procedure—at the urine, the mastoids would have been cut wide open.

That is an example of making a mistake by letting someone else make an essential part of the examination for you. A urine examination is always an essential part of an examination.

Third—depending on doubtful methods. I have known many hopeful young diagnosticians who have become obsessed with some queer method of diagnosis they have heard about and who pin great results on it.

I will refer to two of these. Both are strictly in the field of physical diagnosis. One is the attempt to outline the size of the heart and aorta by percussion. It can not be done. Any one who attempts to outline the heart or aorta by percussion will make a gross error in over 75 per cent of his deductions. This has been demonstrated over and over by the com-

parison of percussion markings and *x-ray* plates. Why then try it at all? We can determine the apex beat of the heart by palpation and inspection with less than 10 per cent of error. That is the only determination of the heart's size we can make by physical diagnosis. For the rest we must depend on the *x-ray*. Let us acknowledge it and do it. At any cost, whether it tell us much or little, let us have the method we use all wool and a yard wide.

Another instance is the use of the percussion of Kronig's isthmus for the diagnosis of tuberculosis. In the first place, not one out of a hundred men can ever learn to be an accurate percusser. Not one out of a thousand can learn to be a sufficiently accurate percusser to outline Kronig's isthmus. Even when accurately outlined its significance is very doubtful. Yet we have tuberculosis specialists solemnly hammering away in order to record this thoroughly unreliable fact, teaching others to do the same. As an example of the way an experienced diagnostician depends on nothing but dependable methods, contrast the five diagnostic criteria Dr. Lawrance Brown set up for a diagnosis of tuberculosis. The diagnosis of tuberculosis can not be made, he says, unless some of the following five things are present.

1. History of hemoptysis.
2. History of pleural effusion.
3. Tubercle bacilli in the sputum.
4. Rales on auscultation.
5. Spots of tubercle in the *x-ray*.

Look that list over. Every one of them solid to the bone. Think of that and think of all the fine haired methods the average tuberculosis expert dilates upon. Dr. Brown has even left out temperature, history of loss of weight, fatigue, and cough. All those things may be deceptive. In physical diagnosis the only sign he depends on is the rale. That is the result of a long experience and the discarding of all less dependable methods.

The same thing applies with equal force to other fields—the doubtful value of liver function tests, the interpretation of linear lines (the fan) on the *x-ray* plate as indicative of pulmonary tuberculosis, the non-specificity of skin tests

for food hypersensitiveness—etc., etc. Here I mention only physical signs.

Fourth—making a local, not an inclusive examination. That is a little deeper than it looks. I do not mean entirely that mistakes occur because a diagnostician will devote his whole attention to the heart and hence neglect something important in the throat. I mean even if every part of the body is carefully examined—even by a group of specialists each in his own line, even by a group clinic—and the result is all neatly typewritten down so that the report covers pages and pages and pages and pages—and there are *x-ray* reports and blood chemistry reports and toenail reports and then at the end it is all summarized. I mean even that is not a diagnosis. The sum of all local examinations is not a complete examination. Any more than if you have four legs and a head and a tail and a trunk, you have a dog. What is needed? Life—that is what is needed to make the dog. What is needed for the diagnosis? The same thing. A comprehensive whole—not the sum of the parts. You need to know all about the patient—how he works and acts as a unit—about his business, his domestic situation, his hopes, his despairs.

Let me illustrate. I will choose a very common experience. Just before I quit private consultation practice, a woman was brought to me who had just come from a great sanitarium-clinic. She had one of those long typewritten reports on her condition which are now so common and so worthless and so uninteresting. After talking to her five minutes I threw the report away because anybody could have seen in that length of time her physical condition was not the key to her disease. She had a personality problem of some sort.

This is what I found. She consulted me for stomach trouble, pains, couldn't eat certain things, was hypersensitive to certain things. But the stomach trouble had only lasted a year or more. Before that she had had colon trouble, and before that menstrual trouble, and before that fatigue, sweating and temperature in the afternoons.

She had consulted in all, about twenty doctors or clinics. Please note—all of them were the very best examples of modern medical practitioners. This is what had happened to her:

Four operations—appendectomy, ventro suspension, tonsillectomy, five teeth out.

One change of climate to Arizona—on the diagnosis of tuberculosis.

Twenty to thirty *x-ray* plates of her chest. She could not remember exactly how many.

Twelve blood serum tests.

Four basal metabolic rates.

My final diagnosis was fear-neurosis. It dated from the influenza epidemic—during the epidemic she lost a sister and she was afraid she would die herself. It took six months of patient care to cure her.

The idea that a staff of diagnosticians can make an examination of a patient, each in his own field and then somebody who has not up to then seen the patient can summarize the whole set of reports and make a diagnosis, is not only the most unscientific conception imaginable, but also one of the most dangerous. A diagnosis is a personal thing—an art just as much as a treatment is. And the diagnosis and treatment are continuous. One leads into the other.

Fifth—trying to make a diagnosis on the first visit. Time is a better diagnostician than any of us. The course of the disease clears up many a mystery. The most thorough examination leaves us puzzled sometimes. But there is a temptation, in spite of the fact that we know we are puzzled, to make a pronouncement, to call the disease what seems most likely.

Nothing illustrates this better than cancer of the colon cases. A typical instance was a man aged sixty who complained of pain in the epigastrium. The *x-ray* man found a defect he called ulcer of the stomach (Note that and think of my first point.) He was treated by alkalis and a strange upset occurred called alkalosis. Then he began to have colon trouble. Barium enemata and sigmoidoscopy were negative. He was re-treated for ulcer. Finally an intestinal obstruc-



tion intervened and the real diagnosis—of cancer of the sigmoid was arrived at.

Summary—The five most frequent causes of mistake in physical diagnosis in my experience are:

1. To find signs which are not present.
2. To let someone else report an important sign to you instead of investigating it yourself.
3. To depend on unreliable methods.
4. To make a local instead of an inclusive examination.
5. To insist on making a diagnosis on a single examination.

But behind all that there is another lesson—to be a creditable practitioner you must keep close to your patients. You must know them not as a physiologist knows a guinea pig but as one human being knows another.

—R—

### Low Blood Sugar in Hypothyroid Conditions

J. WATSON CAMPBELL, M.D.,  
Halstead, Kan.

Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

The thyroid gland has been the subject of a great amount of study and investigation the last few years by the medical profession, as to the influence it exerts on the diseased functions and metabolic processes of the body. One of the phases of this investigation has been the part it plays in the sugar metabolism.

It has been observed for some time that in hyperthyroidism the sugar metabolism is disturbed. The thing that first drew attention to this was the finding that in many hyperthyroid cases with sugar in the urine it cleared up when the goiter was removed. It has now been pretty well established by clinical investigation and animal experiment that there is a definite tendency for a higher blood sugar, glycosuria, and low sugar tolerance in hyperthyroidism. Many of these cases present a true diabetic picture in so far as sugar metabolism is concerned, having the glycosuria, high blood sugar, low carbohydrate tolerance, which promptly clears up when the thyroid disturbance is corrected by operation.

If this situation exists in hyperthyroidism the question naturally arises as

to what the situation is in the opposite condition of hypothyroidism and myxedema.

A search of the literature gives but little information, as there is little, as far as I can find, dealing directly with the subject; that is, the blood sugar values, sugar tolerance determination, in actual clinical cases of hypothyroidism. It is mentioned in several articles that glycosuria is a rare condition in these cases and that they have the ability to take large amounts of carbohydrates without having sugar in the urine, indicating a high sugar tolerance.

Eppinger, Falta and Rudinger show that in dogs "after thyroidectomy the assimilation level for glucose is very high and the subcutaneous injection of adrenalin in quantities which under normal conditions produce glycosuria, is without effect. A heavy carbohydrate intake also fails to produce glycosuria. The animals will present glycosuria, however, if together with the injection of adrenalin a thyroid substance is injected."

Fredman and Gottsman found that in depancreatized dogs when they removed the thyroid the glycosuria disappeared, the hyperglycemia improved, and the animals were able to tolerate a large intake of carbohydrates.

Tenney and Iracesan studied the effects of thyroidectomy on the carbohydrate tolerance of dogs by means of glucose tolerance curves. Their work indicates the significant point as shown by the blood sugar curves, that the sugar tolerance is definitely increased.

With these facts in mind it was decided to make some investigation in cases of well defined myxedema and post-operative hypothyroidism that presented themselves at the Halstead Clinic from which we were able to select some good examples of both. The number is not large but the findings are so uniform that we feel the results are of definite value as indicating the sugar metabolic upset in this class of cases. They show a low fasting blood sugar, a high tolerance for sugar as determined by sugar tolerance tests, with absence of sugar in the urine.

A report of the cases somewhat in detail will demonstrate best the result of the investigation.

*Case 1.*—Mrs. C, age 23, entered the hospital November 29, 1927, complaining of loss of strength and ambition, gaining weight, thick dry hair, thick dry skin, sensitiveness to cold, forgetful and slow mentally, numbness of hands and feet, shortness of breath. In March, 1927, she was operated upon for toxic goiter. From that time until she re-entered the hospital she had gained 40 pounds, but did not gain strength. In addition she began to develop the symptoms mentioned.

Examination shows an obese woman with a thick dry skin, hair dry and brittle, tongue thick, voice a little husky, mentally sluggish and slow to respond. Heart normal, lungs clear. Basal metabolic rate minus 37. Fasting blood sugar .041 per cent. Tolerance for sugar increased.

This is a fairly well advanced case of postoperative hypothyroidism that developed within a few months after removal of the thyroid. The diagnosis is substantiated by the fact that the patient made marked improvement when thyroid extract was given.

*Case 2.*—Mrs. P., age 45, entered the hospital December 18, 1927. She complained of chills and choking spells, weakness and pain in hands, lack of ambition, forgetfulness, gaining weight, puffiness under eyes, thick dry skin, lack of perspiration, inability to keep warm.

Examination: She was overweight, face puffy, especially under eyes, skin thick, dry and firm, tongue large, lips thick. She was slow to respond to questions, indifferent to surroundings. Blood pressure 130/90. Pulse 84, regular. White blood count 6,300, Red blood count, 4,040,000, Hemoglobin 70 per cent. Urine negative. Four basal metabolic rate determinations were made, with an average of —27. The fasting blood sugar was .051 per cent.

This patient began to develop symptoms of toxic goiter in January 1925. On June 30, 1927, thyroidectomy was done. The thyroid deficiency symptoms began to develop soon after, being well ad-

vanced when she entered the hospital a month later.

*Case 3.*—Mrs. J.W., age 47, came to the hospital January 4, 1927, with a large nodular thyroid and symptoms and findings of hyperthyroidism for which thyroidectomy was done.

She returned eight months later complaining of being drowsy and wanting to sleep much of the time. Her hair was getting thin, coarse and dry. She was gaining weight and had swelling of face, feet and hands. No perspiration. The skin was dry and harsh. She felt chilly and was cold most of the time. Had pain and a tight, constricted feeling in chest. Her memory seemed to be failing. The basal metabolic rate was —28. She was sent out on 1 grain of thyroid extract a day.

Eighteen months later, she returned with all of the above symptoms, only more pronounced. She had taken the thyroid extract indifferently with no benefit. Examination at this time: Her face was puffy, skin thick, dry and creased. Hair dry, thin and coarse. Tissue thick, firm and inelastic. Mental reactions slow. There was nothing found in examining the heart to explain the anginal-like symptoms. Reflexes and sensations normal. Blood pressure 114/70. Pulse 76. Basal metabolic rate —31. Fasting blood sugar .051 per cent. Sugar tolerance test high. She was started on three grains of thyroid extract a day which was soon increased to 4½ grains. Her symptoms began to clear up and in two weeks she was much improved, her basal metabolic rate being —10 and fasting blood sugar .102 normal. Sugar tolerance approaches normal.

This case brings out the additional point that when the thyroid deficiency is corrected by the giving of the thyroid extract the blood fasting sugar comes up to normal along with a decrease of sugar tolerance as indicated by the approach of the tolerance curve to the normal.

*Case 4.*—Mrs. J.F.H., age 53, came to the hospital to have her goiter removed, as she had been told she had one. She had also been treated by x-ray. She complained of weakness, shortness of breath, nervousness, numbness of hands and



feet, dry, thick skin; her whole body seemed swollen. Had blurring of vision at times, was unable to think clearly and was very forgetful. Her tongue was thick and awkward, voice husky and low pitched. She was very sensitive to cold; never perspired.

Findings: She had a sallow complexion and appeared older than the age given. The hair was scanty and coarse, skin thick and dry, face mask-like with puffiness under eyes and thick protruding lips, tongue large—almost filling mouth. She had a general swollen edematous appearance but the tissues were firm. The thyroid was definitely enlarged, being firm and somewhat nodular. Chest was clear. Nothing found in heart. Reflexes normal. She responded slowly to questions, and was uncertain and inaccurate in her answers. Blood pressure 150/85. Pulse 70, regular. Blood count: white 6,800, reds 3,980,000, hemoglobin 62 per cent. Urine: specific gravity 1.005 with trace of albumen. Wassermann negative. Basal metabolic rate —30. Fasting blood sugar .037 per cent. Sugar tolerance increased.

She was started on 3 grains thyroid extract daily, which was quickly increased to 6 grains daily. She made rapid clinical improvement and the pulse never went above 80. After 14 days treatment she had a basal metabolic rate of —8. She was sent out on 3 grains a day. On returning two weeks later for a check-up, her basal metabolic rate was —2, her fasting blood sugar .093, and a sugar tolerance approaching the normal.

This case again illustrates the point that myxedematous patients not only have low fasting blood sugar curves but when given thyroid extract in sufficient amount to bring the basal metabolic rate within the normal limits the blood sugar also comes up to normal with a lowering of the sugar tolerance.

Case 5.—Mrs. H., age 64, entered the hospital November 19, 1927, with the following symptoms: weakness, dry skin, loss of hair, desire to sleep most of time, inability to keep warm, and attacks of severe pain originating in the precordial or substernal region, radiating into neck and face, left shoulder and down in the

arm. The pains were precipitated by exertion, excitement or chilling and exposure to cold. They had been getting gradually more severe and persistent and more easily brought on.

She was a fairly well nourished woman with a pale, waxy complexion, thick, dry, firm skin, thin coarse gray hair, almost complete absence of eyebrows, tongue large and thick, speech slow, voice low pitched and husky. Mentally sluggish, memory poor. Slept much of the time. The chest pains were brought on by the least exertion and were severe and persistent. They had all the characteristics of angina pectoris attacks. Blood count: Whites 7,950, reds 3,340,000, hemoglobin 65 per cent. Blood pressure 150/100. Pulse 70, regular. Urine negative. Basal metabolic rate —32. Fasting blood sugar .061 per cent and increased sugar tolerance.

This case is definitely one of myxedema but it has the unusual complication of angina pectoris seizures, although chest pains of varying degree and character, is not an uncommon symptom in hypothyroidism.

The result of this investigation tends to show that there is upset in the sugar metabolism in myxedema and post-operative hypothyroidism. The number of cases is not large but the results are consistent in that they all had low fasting blood sugar and a high tolerance for glucose. In addition in the cases that were given thyroid extract in sufficient amounts to bring the metabolic rate up and relieve the clinical symptoms, the blood sugar findings returned to normal limits.

#### CONCLUSIONS

That in myxedema and postoperative hypothyroidism the sugar tolerance is increased and fasting blood sugar is low. That blood sugar findings may be used as an aid in the diagnosis, and in controlling the treatment of myxedema.

—————R—————

Pharmacist: "That's a bad cold you have, old man. What are you doing for it?"

Father: "Today I'm doing what my wife told me to do. It's my daughter's day tomorrow, and Saturday is my son's day. If I'm not better by Sunday, and if I'm still alive, I shall try your remedy. Just write it down on this card, will you?"

## The Lump in the Breast

W. P. CALLAHAN, M.D., Wichita

Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

This title may not be exactly scientific, but it is extremely practical, and I shall endeavor to emphasize in this paper those facts which will be of every day value to you. To keep pace with the enlightened public those who wish to correctly diagnose the various conditions of the male and female breast must have, first a definite scheme for the examination and the taking of the history; second, they must have a keen sense of palpation; and third, where necessary they must have the pathological examination of an immediate frozen section obtained by an exploratory operation. Where an absolute diagnosis cannot be made in any other way, an exploratory operation should be resorted to. Such operations must be done at one sitting with full preparation for the complete radical operation if it should be required and with a pathologist available for frozen section diagnosis.

Due to educational propaganda against cancer, women are more properly informed and any having symptoms calling attention to their breasts, seek medical advice early. In a clinic in which the women are so informed about 60 per cent will be placed in the group of benign conditions. It requires much diagnostic skill to differentiate this group and it is of the greatest importance for all members of the profession who assume the responsibility of diagnosing breast lesions to be expert diagnosticians.

For this reason, we will consider the method of examination in great detail. This should be a routine procedure not only with a few chosen cases, but in all thorough physical examinations. The patient should be stripped to the waist, her corsets having been removed, and should recline on the examining table with her hands clasped above her head. There should be a good light. Look at the nipple, the areola, the skin of the breast, the axilla and the arms on both sides, comparing the two sides. Stand behind the patient and move the arms up and down; this movement as a rule pictures

the earliest fixation or retracting of the nipple and dimpling of the skin. Repeat this with the patient sitting up.

Having made a thorough inspection, go on with palpation. It is a mistake to grasp the breast and pinch it between the thumb and fingers. The hands should first be passed gently around the periphery of each breast including the base of the axilla. This brings out lumps in or beyond the periphery of the breast. Next palpate the breasts simultaneously and compare them, zone for zone. A lump in the one and not in the other is very evident in this type of examination. Palpate the breast beneath the nipple and areola for worm-like masses which may be dilated ducts. Lastly, pull gently on the nipple and press the breast to see if there is a discharge from the nipple. One studies the nipple in relation to the mass, its mobility, the slightest degree of fixation or retraction of Cooper's ligaments, whether or not it is elevated and whether there is a discharge. The lump is examined for its consistency, whether or not it gives the impression of being encapsulated. If it is encapsulated, the chances are it is benign, but if it is indefinite it is probably malignant or possibly inflammatory. One next studies the appearance of the skin over the swelling noticing whether there is any retraction or dimpling. Lift the breast forward gently to see if there is the slightest suggestion of flattening or dimpling over the lump. Next to the presence of the lump itself, the dimpling of the skin on lifting the breast, is the most significant feature. Orange-peel or pig-skin appearance of the skin is a late sign of malignancy.

There is not much difficulty in diagnosing the lump in acute mastitis. The history is very valuable. It is most often observed in puerperal women usually following a cracked nipple. There is swelling, sometimes of the whole breast, marked tenderness and the lobules are enlarged and indurated. If this goes on to suppuration, the surrounding part becomes red and edematous.

Tuberculous mastitis is not uncommon, occurring oftenest in the third, fourth and fifth decades. The condition is uni-



lateral. The tubercles occur as isolated and discrete masses which may later coalesce, forming large caseous areas. A cold abscess may result which often ruptures to the surface forming a fistulous tract. These discrete nodules may be palpated as indurated areas throughout the breast tissues. Lymph node involvement follows quickly. The history of tuberculosis elsewhere with the above findings practically assures the diagnosis.

A syphilitic chancre is occasionally found involving the nipple. The mother of a syphilitic child does not have this condition, but it may occur in wet nurses, thus following Colles' law. Gummata in the deeper structures of the breast have been reported, but they are rare.

Actinomycosis and echinococcus cysts will only be mentioned. Suffice it to say they do occur in the breast, although rarely.

There is probably no other disease that gives rise to a greater nomenclature of its conditions, to a more extensive literature recording the knowledge of the disease, or a greater confusion to its readers, than chronic cystic mastitis. Ewing says much of the long debate over inflammatory as against the neoplastic nature of the processes could have been avoided, had it been recognized that chronic productive inflammation may consist in much overgrowth of connective tissue and glandular epithelium, and that the inflammatory passes insensibly into the neoplastic hyperplasia. Delbet, Bloodgood, and Baumgarten do not recognize chronic cystic mastitis as a precancerous state. They base their opinion on the fact that so many characteristic cases of chronic cystic mastitis pursue a very chronic course without any malignant neoplastic complication. However, Ewing, Smith and Bartlett, Brodie, Schimmelbusch, Saar, and others do think this condition has neoplastic qualities and that it is in many cases but a short step to carcinoma. Very often when cancer develops in a breast little attention is paid to the other portions of the organ. Tietze computes that about ten per cent of cases of cystic mastitis develop cancer. When cancer does develop in chronic mastitis it usually arises early so when

cystic disease passes a critical period, without the development of a new growth, it tends to maintain a benign course for many years. The importance then of chronic mastitis lies not only in its frequency but especially in its relation to the development of tumors of the breast.

As was noted above, there is much disagreement as to the types and classification of chronic mastitis. One classification divides it into the senile involution, the chronic interstitial and the chronic glandular forms. In the first, there may be simple atrophy or there may be marked proliferation and desquamation of the lining cells of the ducts with or without cysts. Under the chronic interstitial variety there is a diffuse interstitial productive inflammation with a new growth of connective tissue about the ducts, lobules, and acini, while the glandular type is marked by the production of many small cysts, by considerable epithelial proliferation and by diffuse growth of firm, fibrous tissue.

The blue-domed cyst in chronic cystic mastitis is of most frequent occurrence and is easily recognized. There is a palpable, freely movable, fluctuating lump. The skin, the nipple and the remainder of the breast tissue is normal. There is no pain or tenderness. At the exploration of the tumor after division of the subcutaneous fat, the blue-dome of the cyst becomes visible. These cysts have smooth thin walls and contain clear fluid, which does not coagulate in liquor formaldehydi. As soon as the wall is nicked, the cyst loses its blue color. The age ranges from 23 to 65 years, it being commonest in the third decade. In the majority of cases, it is necessary to remove the tumor only and conserve the breast.

Cysts of the galactoceles type differ from the blue-domed cysts in the absence of a blue dome. The dome is opaque, white and the contents are milky. In these cysts the surrounding breast tissue shows no evidence of lactation hypertrophy, which distinguishes them from the true galactocoele. They have no relation to lactation, and belong to the group of gross findings of chronic cystic mastitis. On palpation the galactocoele cyst

feels like the blue-dome cyst. On dividing the subcutaneous fat, firm white breast tissue is usually exposed. Then the mass with a white opaque dome and contents resembling milk is found, thus distinguishing it from the blue-domed cyst.

Multiple cystic disease of the breast is usually bilateral. The breast is usually riddled with cysts of various sizes, both of the blue-domed and galactoceles type. Clinically multiple tumors are recognized in both breasts. Formerly it was the custom to excise both breasts, but the tendency now is not to subject these patients to operation at all. Cases of this condition have been reported which healed spontaneously.

A worm-like tumor beneath the nipple is sometimes found. There is no induration, no fixation, and no retraction of the nipple, and a discharge may or may not be expressed from the nipple. On exploring the area, worm-like masses are seen which contain brownish material. This condition is a diffuse dilatation of the ducts and is usually situated beneath the nipple, although rarely it may be found outside the nipple zone. The remaining breast tissue is normal. This condition usually occurs in multipara. A discharge from the nipple in these cases may produce an eczema and the condition may be confused with Paget's disease.

When a circumscribed portion of the breast shows diffuse productive inflammation, it often resembles a true adenofibroma, or a fibroadenoma, but is not encapsulated. The non-encapsulated adenoma of the breast, or adenomatoid or hyperplastic condition, as it is sometimes referred to, was rarely observed until patients were educated to seek advice quickly after the palpation of a lump in the breast. These observations seem to indicate that tumors of this character in the past have disappeared when patients delayed examination. On palpation the lump does not feel tense and spherical like a cyst; it has an irregular outline and a consistency somewhat softer than that of cancer. The area is often indefinite and slightly nodular. On gross section no dilated ducts or cysts can be seen in contradistinction to the above condi-

tions. On cross-section, each palpable and definite nodule can be easily recognized from the surrounding fibrous and fatty tissue by a group of elevated pink dots. Each of these nonencapsulated areas shows an increase in parenchyma, resembling the benign encapsulated fibroadenoma. Bloodgood has a record of 48 of these cases in which no operation was performed, and the multiple indefinite nodules ultimately disappeared. However, if a patient 25 years of age or older has but a single lump in a breast, operation is indicated because there is no absolute way at present to exclude the possibility of malignancy other than by an exploratory incision.

The nonencapsulated adenoma containing one or more minute cysts or dilated ducts also occurs, and is similar to the condition just described. When the duct is cut across some viscid green or brown fluid escapes and more can be expressed. Here again it is necessary in the majority of cases to remove the tumor only and the breast may be saved.

The chronic glandular form of productive mastitis is also called diffuse nonencapsulated cystic adenoma or Schimmelbusch's or Reclus' disease. There is a marked prominence of epithelial changes with multiple cyst formation, containing serous, fatty, bloody or caseous contents or papillary ingrowths. Usually one breast and later the other becomes affected. The onset is slow and painless. No part of the breast escapes. The whole organ is firm with many hard movable nodules from the size of a pea to a bean, which are cysts or dilated ducts. Small solid adenoma may infiltrate the fatty tissue. There may or may not be a serous discharge from the nipple. Occasionally intermittent retraction of the nipple is found in these cases, and if operation is delayed, it may become permanent. Reclus reports cases of from 15 to 33 years duration. Carcinoma may develop in this type of mastitis, the incidence in some clinics being 8 per cent while in the nonencapsulated cystic adenomatous type it is 6 per cent.

The question of prime importance is the frequency of benign or malignant tumor processes in chronic cystic mas-



titis. To remove all such breasts would involve useless surgery. In all the above types but two it is usually safe to remove the tumor and conserve the breast tissue. In the non-encapsulated cystic adenomatous type and in Schimmelbusch's disease it is usually safer to do the complete operation. In any case where the diagnosis cannot be made clinically or after the exploratory incision from the gross appearance, a frozen section should immediately be made. The treatment must be determined after consideration of all the factors in the case.

There are two methods of exploratory incision, either to cut down upon the tumor and the moment it is explored to cut out a piece for frozen section or to excise the lump with a small zone of breast tissue, en masse. The latter allows the most satisfactory naked eye inspection, but delays somewhat the frozen section.

Fortunately the occurrence of sarcoma in the breast is rare. The pure sarcoma may be divided into the round and the spindle cell type; the mixed sarcoma which occurs here is the adeno-sarcoma. On palpation they are rounded, lobulated and nonencapsulated. The growth is usually rapid and fatal. Later in the disease, the skin may become adherent due to the contraction of the stroma and to the dragging on the suspensory ligaments of Cooper which pass from the glandular substance to the skin. This causes the dimpling of the skin when one attempts to move the breast. There is relative immunity of the lymph nodes and some surgeons advocate leaving the axillary lymph glands at operation.

In a review of 5,080 cases of malignancy, 563 or 11 per cent occurred in the breast. Of these 8 were in males and 555 in females. The incidence of sarcoma to carcinoma was three to 97. The age limits in this series were 24 and 90 years, but 58 per cent occurred between 40 and 60 years of age. The family history for malignancy varies greatly, in some series it was reported negligible while in others positive in 23 per cent of cases. Statistics do not agree on the marital factor, some show that 85 per cent occur in married patients while others show that the

incidence of cancer among single women and those in whom the gland has not attained full function is greater. In a series of 234 cases 230 or 98 per cent complained of a lump in the breast. About 2 per cent had some bloody discharge from the nipple. The average duration from the time the patient noticed the lump until it was excised was six and one-half months.

Carcinomata of the breast fall into three main groups, (1) the adenocarcinoma, (2) the duct carcinoma, and (3) the acinar carcinoma. The first arises chiefly in cysts of interlobular ducts or sweat glands, and often in the cysts of chronic mastitis. They are markedly circumscribed and are often bulky, soft tumors. The duct carcinomata arise from the lining cells of the ducts. The fibrocarcinomata are associated with chronic mastitis and when the lesion extends to the nipple or skin it is called Paget's disease. The acinar variety arise from the epithelium lining the acini. There is lack of encapsulation and a diffuse growth in which the alveoli predominate. The fibrous acinar type is called scirrhous carcinoma; it has abundant stroma embedding the epithelial cell strands. It is most tenacious and leads to most unfavorable results.

Metastases ordinarily occur in thirteen months. In a series of 405 autopsies, Gross found the following order of metastases: pleura 51 per cent, lungs 50 per cent, liver 48 per cent, bones 20 per cent, brain 9 per cent, ovary 8 per cent, opposite breast 8 per cent, dura mater 6 per cent, and kidneys and ureters 6 per cent.

The lymphatic supply to the breast is extremely important and is the main source of dissemination of carcinoma. The subpapillary lymphatic plexus is particularly well developed at the areola. The fascial plexus in the main channel and in some cases has an anastomosis with the opposite axillary nodes. There are three main trunks of the fascial plexus: (1) the axillary, which travels from the outer upper and under segments along the border of the pectoral muscle to the axillary nodes; (2) the intermuscular trunks, which pass under the

surface of the breast in the pectoral fascia and over and through the pectoralis major and minor muscles or to the infraclavicular nodes; (Heidenhain first pointed this out); (3) the intercostal lymphatics which come from the inner and under segments of the breast through the pectoralis and intercostal muscles and drain into the sternal nodes lying behind the sternum in the parasternal line. It is in these intercostal nodes that Handley showed so beautifully that early metastases takes place.

Most authorities concede that surgery, or surgery and irradiation give the best results in malignant disease of the breast. In 1867 Moore showed that cancer was at first strictly localized, and recommended removal of the entire breast, the skin covering it, the fat, pectoral muscles and fascia, and the enlarged lymphatics en masse. In 1880 Gross obtained a 3-year cure in 9 per cent of cases, and when he added the axillary dissection he procured 20 per cent. Halsted introduced a wide dissection and routine removal of both pectoral muscles, and his 3-year cures increased to 34 per cent. Handley demonstrated the permeation of cancer along fascial planes, and his statistics showed 48 per cent of 3-year cures. The complete operation for cancer of the breast today is removal in one piece, and with the minimum of trauma, of the whole breast, all the skin over it, the pectoralis major and minor muscles, the axillary lymphatics and fat, the deep fascia from the clavicle to the epigastrium, and from the sternum to the latissimus.

Handley states there is early invasion of the lymphatic glands lying along the internal mammary arteries and by the time the axillary glands are enlarged, this has occurred. For this reason, he advocates the following treatment: radium tubes should be inserted at the inner ends of the first, second and third intercostal spaces in the muscle, and at the terminal portion of the main lymphatic duct above the first rib. Following this prophylactic treatment, he has had scarcely any local or axillary recurrences.

The general consensus of opinion is that surgery combined with irradiation gives the best results. Averages for all classes of cases from various clinics show that surgery alone has 37 per cent of three and 27 per cent of five-year cures as compared with surgery and irradiation, having 50 per cent of three-year and 34 per cent of five-year cures. These statistics show the advantage of surgery and irradiation over surgery alone. Greenough thinks these statistics a little high and makes the statement that our present five-year cures for all classes of cases of breast cancer which apply for treatment at larger hospitals are only from 15 to 20 per cent.

The factors in the prognosis of breast cancer are the age of the patient, the number of times of lactation, the rate of growth of the tumor, and the extent of the involvement. Various indices to estimate the malignancy of cancer of the breast have been evolved. Classifications based on histological findings of the tumor are extremely difficult, because the cells are usually not homogenous throughout. Broder's work in 1921 on the histological grading of tumors led to considerable investigation in this field, but it has not proven so effective as the clinical grading. Recently Lee has produced quite an interesting equation whereby the malignancy may be computed according to clinical factors. Roughly the Clinical Index of Malignancy or the C. I. M. equals two times the age factor plus three times the lactation factor plus four times the rate of growth factor, plus five times the extent, definite sets of values being given to each factor. According to the result, the tumor is classed as Grade A, B, or C. In a series of 100 cases, this equation has been quite correct, in fact more so than the histological grading by Ewing of the same series. It is quite a practical guide in the prognosis of malignant disease of the breast.

Women have almost twice the cancer liability that men have, one woman in eight, after the age of 45, dying of cancer. When we consider that 5,000 women die in the United States annually because of cancer of the breast, it should



inspire us all to strive for earlier diagnosis of this disease, we must realize ourselves that a lump in a breast is an acute disease. The chances of cure drop from 70 per cent without involved glands to 20 per cent of cures with involved glands. Claypon says "It must be remembered that every late case of cancer was at one time an early one." To accomplish 60 per cent to 70 per cent of cures of cancer of the breast, there must be education of the public, proper training of the general practitioner as well as the specialist in differential diagnosis, and proper qualification of the surgeon to do the complete operation.

#### DISCUSSION

A. P. Gearhart, M.D., Wichita

In the history of medicine, from the time of Hippocrates to the present day, there has been no one disease which has so held the attention of medical men in thought, word and deed as has cancer. Many of our most learned men have devoted their lives to the study of this insidious thing in an attempt to learn its cause and cure, and governments as well as altruistic individuals have contributed vast sums in trying to solve its secrets.

Dr. Callahan, in choosing a practical, rather than a scientific, title for his paper chooses wisely. When people generally, doctors as well as laymen, recognize the importance of examining early the "lump" in the breast, much will have been accomplished toward combating the disease, cancer of the breast.

He shows how important it is to make an early and thorough physical examination; pointing out first, that the public must be educated to realize the possibility of cancer in all lumps, old ulcers and sores, and second, that the medical profession, especially the general practitioner who is almost always the first to see the patient, must be repeatedly reminded of the necessity and means of early diagnosis. He insists that finally the physician must call to his aid the surgeon, the *x-ray* man and the pathologist who are morally obligated to provide adequate means to assist him in making an immediate and a positive clinical diagnosis.

He mentions as an example of education, a certain clinic where women sought early advice concerning symptoms calling attention to the breast, 60 per cent of which were placed in the benign group. This, in view of the fact that 80 per cent of breast tumors are malignant when first seen, should prove that watchful waiting has no place in the eradication of cancer.

Among factors which influence prognosis he mentions classification based on histological findings and those computed according to clinical index. He speaks of Broder's work, its difficulties and possibilities and of Lee's work with the clinical index and the results and possibilities.

Broder shows that of 880 epithelioma graded according to histological classification and operated at the Mayo Clinic, from Group 1- 82 showed 90.21% of good results from Group 2-407 showed 66.16% of good results from Group 3-282 showed 24.82% of good results from Group 4-109 showed 10.09% of good results

According to Lee's clinical index of malignancy tumors were classed as grades A, B and C. In a series of 100 cases this classification has been quite correct, in fact, more so than the histological guide.

Dr. A. J. Ochsner while doing a breast operation at the Augustana Hospital, once made the statement that they had followed 300 cases of cancer of the breast treated with and 300 cases treated without surgery and that the operated cases outlived those not operated by just two months. He commented that the only reason for operating was that some did get well.

At the Mayo clinic while watching Will Mayo resect a stomach for cancer, a section was sent to the laboratory for examination. He remarked that some cancers of the stomach did their damage by local extension either producing metastases very slowly or not at all; that in others metastases took place so rapidly that they were unable to treat them successfully, but that they were able to judge to some extent from the findings in each case what grade or type to expect and determine what they would do in each instance.

The late cases we will always have

with us and there is a possibility that we may be able to determine by the clinical index of malignancy or classification based on histological findings these things; first, those cases which do best treated with surgery; second, those which do best with *x*-ray or radium treatment; third, those which respond best to both *x*-ray and surgery and fourth, those which seem better off without any of these but with some other mode of treatment.

Broder has shown that of the operated cases those with the most undifferentiated cells are the ones with the highest rate of mortality. I do not know a great deal about *x*-ray or radium in the treatment of breast cancer, but I seem to recall having read that these cases of undifferentiated cells, Grade 3 and 4, are the ones which with *x*-ray give the best results.

Most of us give a guarded prognosis when dealing with a condition which we are satisfied is malignant. We have learned from experience that operative interference, including *x*-ray and radium, is as a rule only palliative, but I am sure that we all have patients who are living useful healthy lives many years after operation for small and early cancer.

Ewing says, "The growing tendency to remove the breast for recognized chronic mastitis or suspected carcinoma, while probably sacrificing some organs unnecessarily, has justified itself in the writer's material by securing the early removal of some miniature carcinomas and more precancerous lesions."

C. Alexander Hellwig, M.D., Wichita

In the past, tumors of the breast came to the surgeon at a stage when diagnosis could be made clinically or from the gross appearance at exploration. Today, as the educated public answers the message of the medical profession and comes under observation earlier and earlier, many cases require microscopic study, before the accurate diagnosis can be made.

There is no further necessity for discussing the importance of biopsy in breast tumors, but for investigation as to the most accurate and safest method.

Wilson and McCarty deserve the credit for the development of the frozen section diagnosis made during operation and acted upon by the operator.

For four years, we have used routinely the Wilson method in biopsies at St. Francis Hospital, Wichita, and depend largely upon the unfixed sections, stained with polychrome methylen blue. This procedure is not only fast, but very accurate. I cannot recall a single instance of breast tumors when our diagnosis from frozen sections has been changed by subsequent study of paraffin sections.

In our last series of 90 tumors of the breast 44 were benign and 46 malignant. Of this series 57 or 63 per cent were diagnosed clinically correct, of the 46 malignant lesions 22 were so typical that an accurate diagnosis and radical amputation was done without biopsy.

In 28 patients or 31 per cent of the whole material, a definite diagnosis could not be made clinically and a biopsy was required. Twelve of these 28 doubtful cases proved malignant and the radical operation followed immediately the exploration, sixteen were benign and the frozen section diagnosis prevented a mutilating operation for these innocent tumors. In the last four years, not a single radical breast operation has been performed for benign lesions in our hospital.

I agree with McCarty that all breasts containing a lump without the clinical signs of cancer and those showing a discharge from the nipple, require wide excision of the mass for immediate microscopic study, in order to prevent a too radical or, on the other hand, insufficient treatment, or to avoid a second operation.

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### Primary Bronchogenic Carcinoma— Clinical Features

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Only within recent years has the diagnosis of primary carcinoma of the lungs been more than a probability. Even with the advantages of many additions to our medical armamentarium it is not always



possible to differentiate this condition from other form of pulmonary disease. Adler's report of 372 collected cases of pulmonary malignancy did much to stimulate interest, and the present high state of efficiency of thoracic surgery is constantly increasing the responsibility of the internist for an early recognition of this condition. Careful clinicians always examine the chest for possible tuberculosis and should they also examine for possible lung tumor many more correct antemortem conclusions will be reached.

It is stated that primary carcinoma of the lungs occurs in one per cent of all carcinomas, but it is believed by many authors to occur much more frequently. Hueper<sup>2</sup> believes that there has been an increase in lung carcinoma in the last twenty years, and especially in the last five, and cites recent reports from various European clinics to substantiate this:

"Berblinger noted a frequency of lung carcinomas in 6.6 per cent of all observed carcinomas in 1920, but of 11.11 per cent in 1923; Seyfarth reported 6.23 per cent in 1920 and 15.5 per cent for the first half of 1924. Lubarsch stated 5.4 per cent in 1920-21; Stahelin found 2.19 per cent in 1900, against 4.9 per cent in 1924; and Kikuth mentioned 1.7 per cent in 1897, but 9.4 per cent in 1923, adding that he could not state an increase of the absolute frequency of carcinomas during this period in his material."

Hoffman<sup>3</sup> also cites definite evidences of increase of this form of malignancy in the United States registration area. This apparent increase in the incidence of lung carcinoma has provoked much discussion in recent literature as to the causation, but no satisfactory explanation has been advanced.

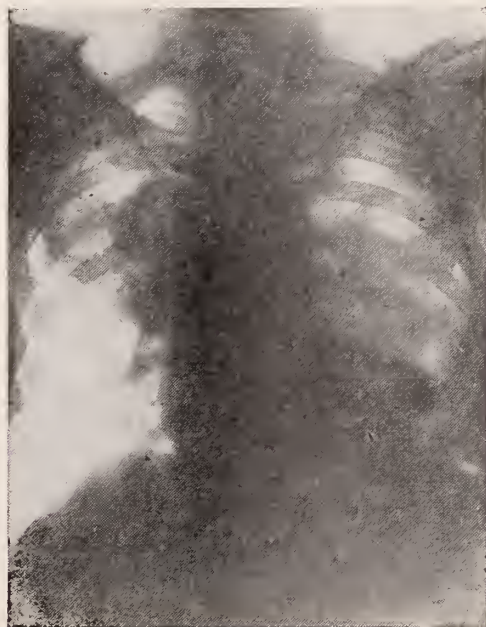
Because of the rarity of carcinoma of the lung and the difficulties of making the clinical diagnosis, the diagnosis has not often been made until the postmortem examination, but with a careful study of details in these cases antemortem diagnosis is often possible. That such a diagnosis can be made is illustrated by the following record.

Case History. Patient T. A.—male—colored—age 45—married. Reported to

the out patient department of the Bell Memorial Hospital, February 27, 1928. Complained of pain in the left chest, particularly in the precordial region.

Present Illness. States that he has had pain in the precordial region for three weeks, pain is constant, but during the day is not severe. It begins in the region of the left axilla and radiates to the left costal boundary in the nipple line. The pain is worse at night, becoming severe and waking patient about 2 o'clock a. m. It lasts for varying lengths of time—usually about two hours. The severe night pain is usually relieved by lying on the left side. He has had some palpitation, and is definitely short of breath. His appetite is good although he complains that food does not taste as it should. He states that he has lost twenty pounds in the last two months. He coughs constantly and has raised a small amount of mucoid sputum, which at times has been streaked with blood.

Family History. Married—no children—wife living and well—father killed in accident—mother died of unknown cause—patient is only child.



Past Illnesses. States that he has had no previous illness except a gonorrheal urethritis five or six years ago.

Examination. Examination on April 5, 1928 (Dr. Sam H. Snider made the fol-

lowing notes). Patient is slender and rather anemic. His chest is slender and flat, the left chest being somewhat flatter than the right. There is slight dullness behind the upper sternum with hyper-resonance over the left lower front (gastric distension?) some dullness over the left lower back, decreased fremitus about the left lower back, *x-ray* of chest was ordered.

On April 8, 1928, the following notes were made by Dr. Snider concerning the *x-ray* plate. *x-Ray* shows two rounded masses projecting into the right chest cavity from the mediastinum. These masses are each about the size of a small orange and of a smooth and uniform contour. There is a definite hazy infiltration about the left hilum extending out into the parenchyma of the left lung. There is a definite shadow of pleural effusion at the left base.

The chest was aspirated with a small needle and about 7 c.c. of fluid was removed. This fluid was yellowish and cloudy, not bloody. At this time a clinical diagnosis of malignant neoplasm in the mediastinum and the left lung was made with a notation that it was probably a primary carcinoma of the lung. About one week later the patient was in the clinic again and was found to have a hard nodular mass the size of an English walnut at the anterior boundary of the left deltoid muscle. This mass was not attached to bone nor closely adherent to surrounding soft tissues, and seemed definitely walled off. (The notes state that it has the feel of a malignant neoplasm.)

Examination of the prostate gland showed no evidence of new growth. Patient had no fever at any time that he was in the dispensary. Between February 27, 1928, and March 22, 1928, he lost  $7\frac{1}{2}$  pounds ( $134\frac{1}{2}$ —127).

Bacteriological examination of the fluid from the chest cavity showed no tubercle-bacilli. The predominating type of cell in the fluid was a small lymphocyte. A guinea pig was inoculated with sediment from the centrifuged fluid. An autopsy six weeks later showed that the pig had no tuberculosis.

The patient was admitted to Bell Me-

morial Hospital on March 22, 1928, for further study, and he died about three weeks after admission to hospital. An autopsy was performed by the hospital pathologist. The post-mortem diagnosis was primary bronchogenic carcinoma with metastasis to the mediastinum and to various other organs. The anatomical features of this case were reported elsewhere in this journal by Doctor Leitch, and will not be discussed here. The features which led to suspicion and diagnosis of this case as one of primary bronchogenic carcinoma are the following:

1. Pain
2. Loss of weight
3. Dyspnoea
4. The character of the expectoration
5. The *x-ray* findings.

Pain is usually a prominent symptom, in fact the chief complaint of most of the patients with primary bronchogenic carcinoma. It may be either dull or sharp and the radiation of the pain depends largely upon the location of the tumor and its adjacency to the pleura. While pain is a prominent feature of the disease, we do not know of any characteristic which would differentiate this pain from the pain of other pulmonary diseases.

In this type of carcinoma the loss of weight is usually marked and progressive.

Dyspnoea is not peculiar to carcinoma of the lung, but is an almost constant feature of the disease. The presence of this symptom with findings in the lung that are not characteristic of any other pathological change should immediately make us think of cancer of the lung.

The character of the expectoration in most cases of primary bronchogenic carcinoma is very suggestive of the diagnosis. Most authors describe the sputum as being typically like raspberry jelly, and very few lay emphasis on the mucoid blood streaked character of the sputum. Such a sputum was present in our case and was negative for tubercle-bacilli. Although we have had small experience in cancer of the lung, this character of the sputum tended to confirm our suspicion of pulmonary carcinoma. The



x-ray findings gave conclusive evidence as to the character of the disease. The lobulated appearance of the mass bulging into the right chest from the mediastinum excluded aneurysm, while the character of the shadow radiating out into the left lung was typical of the primary carcinoma. The characteristics of the shadow in the lung are its diffuse nature, and its gradual fading at the periphery until it seems to fuse with the normal tissues. This case is another evidence of the great value of the x-ray findings in the diagnosis of pulmonary disease.

**Summary.** A case of primary bronchogenic carcinoma, diagnosed clinically is presented.

**Conclusions.** Although the diagnosis of primary bronchogenic carcinoma may be very difficult it is possible to make a clinical diagnosis of the condition in the large proportion of cases.

Every case presenting symptoms indicative of primary bronchogenic carcinoma should be carefully studied with history, physical examination, x-ray and sputum examination to determine the diagnosis. The increased watchfulness concerning this condition probably explains the apparently increased incidence.

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R

#### TUBERCULOSIS ABSTRACTS

The importance of recognizing tuberculosis in its incipency is repeatedly and deservedly emphasized. The alert physician, when he suspects the disease, makes careful search for lesions in the apex of the lung. The supposition is that the tuberculous process begins usually in the apex, from which focus it tends to spread downward to the lung generally. Several clinicians have recently called attention to a form of tuberculosis which

begins in the infra-apical region and which spreads rapidly from there to other parts of the lung, including the apex. Max Pinner of the William H. Maybury Sanatorium, Detroit, has studied this type of lesion in 200 cases and presents his conclusions in this number of *Tuberculosis Abstracts*, a more complete discussion of which appeared in the *American Review of Tuberculosis*, February, 1929.

#### ACUTE SUBAPICAL TUBERCULOSIS

Wessler, some years ago, pointed out in this country the frequency of the early appearance of a subapical infiltrative process, the gravity of which, as regards progressive disease, was quite clearly shown. More recently, certain German workers, notably Assman, Redeker, Romberg and Ulrici, have pointed out that much of the tuberculosis seen in adults is the result of a bronchogenic reinfection, either endogenous or exogenous, with a small tuberculous bronchopneumonic focus located anywhere in the lung, but most frequently in the infra-

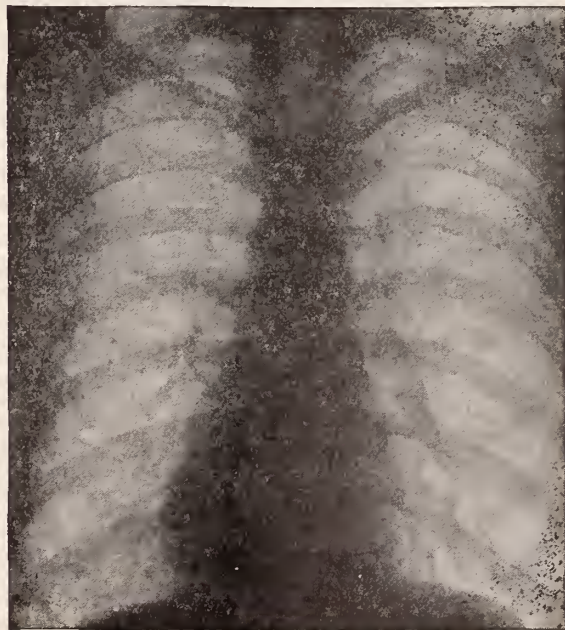


Fig. 1. This roentgenogram was obtained at a routine examination of employees. The patient at this time was in perfect health, and the roentgenogram does not show any evidence of tuberculous involvement of the lung, and in particular no apical foci.

clavicular region. This type of the disease comes on suddenly with symptoms that are grippe-like or catarrhal. Varia-

tions of this conception have been presented by different observers, but most of them agree that it is this infraclavicular infiltrative lesion and not the truly apical productive one, which is serious in terms of the development of progressive disease.

A study of the onset and type of lesion in two hundred cases has been made in an attempt to check the accuracy of the view that ascribes so much importance to the infraclavicular lesion.

Cavity formation was particularly observed as to the point of origin, migration, and especially the time of appear-

each case was studied. With this information tabulated, the following points stand out strikingly:

1. In pulmonary tuberculosis, sudden onset is not less frequent than is insidious onset.

2. Apical involvement is not characteristic of incipency, but occurs in the majority of cases after the incipient stage has passed.

3. The extent of the lesion does not bear a direct relation to the duration of the disease. Of all patients reaching the far advanced stage, the majority do so within the first half year.

4. Cavitation is not a late occurrence; its frequency is nearly the same at any stage of the disease.

5. Apical involvement bears a close relation to the type of the clinical course.

6. An analysis of patients with pulmonary tuberculosis as to the two characteristics—"apices involved" and "type of onset"—leads to the differentiation of two different clinical types of disease. The one with apices free has a sudden onset with a bronchopneumonia (tuberculous) which usually progresses rapidly with acute exacerbations and the early development of advanced disease. The other type has an insidious onset, involves the apex primarily, and progresses very slowly, if at all.

Apical lesions as such are not always benign, as they often are the result of spread upward from a subapical lesion; however, this study would indicate that true apical tuberculosis seldom progresses caudalward to extensive disease.

#### SUMMARY OF CONCLUSIONS

1. Progressive and destructive pulmonary tuberculosis usually begins *suddenly*, with *exudative subapical* lesions.

2. Strictly apical productive tuberculosis is not, as a rule, the incipient stage of progressive and destructive pulmonary tuberculosis; it may precede the latter; but even in such cases, the latter starts usually as stated under 1. The role which apical tuberculosis plays in phthisiogenesis is rather insignificant as compared to that of acute subapical infiltrations.

3. Lesions far advanced as to extent, and excavations, frequently develop with-

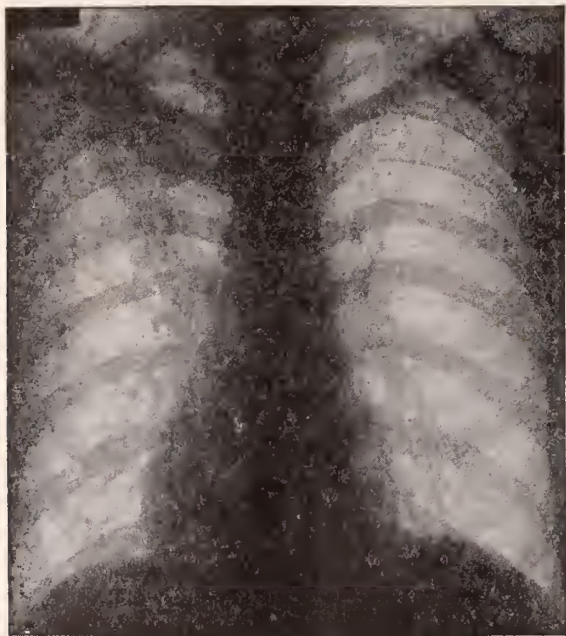


Fig. 2. The second roentgenogram of the same patient was taken seventy-eight days later and ten days following the onset of an acute grippelike disease. It shows a rather extensive infiltrative lesion in the left infraclavicular region with beginning central excavation.

ance in relation to onset. The rapidity of formation of cavities after onset, with the tendency to form in the subapical region and migrate upwards, was very striking. The *x-ray* was found to be the most useful in detecting the early development of the subapical lesion and bears out the value of using the *x-ray* as an adjunct to physical examination in every suspected chest condition.

#### TABULATION OF FACTS STUDIED

In these two hundred cases, a very careful history of the onset and course was taken, and every available *x-ray* of



in less than six months.

4. Processes leading to active progression and to excavation are most frequently associated with acute symptoms.

5. Apical involvement, in the majority of patients, is not an occurrence of incipency but a late development.

6. Diagnostic and therapeutic endeavors should be directed towards the acute subapical processes, and not only toward the insidious apical disease.

7. Physical signs and symptomatology, traditionally described as characteristic for "incipient pulmonary tuberculosis," are misleading for the detection of truly incipient subapical acute processes.

Tuberculosis and health associations throughout the United States are now making plans for an early diagnosis campaign to be conducted during April, 1950. Billboards, posters, pamphlets, newspaper and magazine articles will emphasize the importance of discovering the early signs of tuberculosis in children.

—R—

#### **Immature White Blood Cell Counts in Infectious Diseases**

In an attempt to obtain clearer correlation between the clinical picture and the white cell response, total white blood counts and Schilling index determinations were made by Paul Reznikoff, New York, (J.A.M.A., Sept. 28, '29), in about 200 subjects, which included controls and patients admitted as a routine to hospital wards. He says that for routine clinical work the Schilling method is quite satisfactory and time saving. The clinician has great need for such a procedure as the Schilling index. The limitation of merely a total and ordinary differential count is evident. In many cases normal figures are obtained in patients who are desperately ill. It is especially in these conditions that the shift to the left is marked. The time required to make a Schilling count is only slightly more than that necessary for performing the ordinary differential count and it can easily be made by interns and technicians. Whenever a patient's condition demands help to determine the diagnosis or the prognosis, a Schilling index is desirable.

The proper care of patients, therefore, should make such a study a routine procedure. The Schilling index gives evidence of the response of the bone marrow to the stimulus of pathologic conditions by demonstrating an increase in immature cells of myelocytic origin in the peripheral blood; e. g., a shift to the left. Such a count mirrors the presence and the intensity of a pathologic process (infection) and, when performed at regular intervals, gives an excellent indication of the prognosis, sometimes before any other sign is available. Total white blood cell and differential counts cannot be correlated with signs and symptoms in acute infectious diseases with sufficient frequency or constancy to make such procedure alone valuable.

—R—

#### **Obstetrics and Gynecology in General Practice**

Carl Henry Davis, Milwaukee, (J.A.M.A., Sept. 28, '29), feels that the following conditions are believed essential in the effort to obtain better medical care for women patients: (1) Governmental activities should be directed toward a careful survey of the causes of maternal and infant deaths in the United States and an investigation of methods that may be adaptable to various local conditions. (2) Medical students who go into general practice after graduation require a more adequate clinical training in obstetrics. Greater freedom in the selection of courses during the senior year may be necessary, unless the entire curriculum is planned on a basis of requirements for general practice. (3) More institutions are needed in which physicians who wish to specialize in obstetrics and gynecology may obtain the necessary training. (4) There is a great need for graduate nurses who may qualify as midwives to work in conjunction with the medical profession in the care of a large group of women who are unable to pay for adequate obstetric service under existing conditions. A nurse-midwife service such as Mary Breckenridge has organized in the Kentucky mountains, if sufficiently developed, might lead to a marked decrease in the maternal mortality rate of the United States.

# THE JOURNAL

of the

## Kansas Medical Society

**W. E. McVEY, M. D. - - Editor**

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### MEDICAL LIBRARIES

Quite a number of state societies and a good many county societies maintain medical libraries for the accommodation of their members. Different kinds of services are given by these libraries but so far as can be learned they are generally regarded as very much worth while. The most valuable for reference is the library that is made up largely of medical periodicals because in these will always be found the most recent findings in medicine. The expense of a well conducted library of this kind is considerable, however, such a library can be developed by a state society at less cost than by any other organization especially if the location of the library is convenient to the place of publication of the state medical journal so that the exchanges can be readily turned over to it. Naturally the expense of employing a librarian must be considered.

The matter of service to the members is less complicated in county society libraries because these are usually accessible to all of the members. A state society's library must be conducted on

some plan that will give adequate service to members in all parts of the state. It would be interesting to know how this is accomplished by the libraries of other state societies, and it would also be interesting to know just what per cent of the members take advantage of the service that is available.

Forty years ago there was presented to the Kansas Medical Society a very complete medical library and an endowment fund of five-thousand dollars, the income from which was to be used in the purchase of books and magazines. This donation was made by Mrs. Jane Stormont and the library is known as the Stormont Library. At the time Mrs. Stormont made this donation our society had no permanent headquarters and no place to house such a library and it was thought best that it should be housed with the State Library and placed under the state's control. By a legislative enactment the donation was accepted and the state assumed the custody of the library and the endowment fund of five thousand dollars, but in this enactment as it appears in the revised statutes of 1923 the only recognition of the proprietorship of the Society is in section 75-2525 and in section 75-2529, which read as follows:

"Stormont medical library. The gift of Mrs. Jane C. Stormont of Topeka, Kansas, widow of the late Dr. David W. Stormont, generously presenting to the state of Kansas the sum of five thousand dollars in money for the purpose of establishing and maintaining a medical library for the use and benefit of the state of Kansas, and particularly the medical profession thereof, is hereby accepted for the uses and purposes, and subject to all the terms, conditions and limitations mentioned and expressed in such gift, to wit: That no part of said principal sum shall ever be expended for any purpose, but that the same shall be invested and reinvested, as the state of



Kansas may by law direct, for the benefit of said library fund, and the interest and accumulations thereof shall be expended in the purchase of books, charts and magazines relating to the science of medicine and surgery, which shall be purchased from time to time by such person, board or officer of the state of Kansas as may be provided by law; such purchase to be recommended by the library committee of the Kansas Medical Society, or such committee as such society may designate. If such society shall fail or neglect to appoint such committee, then such purchase shall be made under the direction of such person, board or officer as may be authorized by law. Such purchase is to constitute a part of the library of the state of Kansas, and known and designated as "The Stormont medical library," and shall be kept and maintained with the state library in the state capitol building, and shall be forever free for the people of Kansas, and particularly for the medical profession thereof, under such rules and regulations as may from time to time be prescribed by the directors or officers having charge of the state library."

"Medical books. The state librarian is hereby directed to receive and care for in the state library all medical books, charts and magazines that may be purchased under the provisions of this act, subject to such rules as to the use thereof as may be from time to time formulated by the library committee of the Kansas medical society, by and with the consent and approval of the state librarian, which books, charts and magazines are to form a distinct department of the state library, and shall be known as the "Stormont medical library." The state librarian is also directed to accept on behalf of the state, and to care for in the same manner, any and all other medical books, charts and magazines that may be donated to the state by Mrs. Jane C. Stormont or by any other person or body as a part of the Stormont medical library."

At the request of Mrs. Stormont and in accordance with her recommendations a permanent committee was appointed

by the Society and up to and for some years after the reorganization this committee made regular recommendations to the librarian for the purchase of books, and regular reports of the purchases and the funds on hand were made at the annual meetings. By some mischance, when the present constitution and by-laws were adopted no provision was made for a committee on Stormont Library and no such committee has been appointed. No report of the books purchased or the funds available has been made to the Society for a good many years. At several of the annual meetings during the past ten years motions have been introduced and carried, requesting the president of the society to appoint a committee on the Stormont Library, but up to this time the membership of such a committee has not been announced.

Some years ago a complaint was made by the then state librarian that none of the medical profession used the medical library in any way. An effort was made to create some interest and a catalogue of the books then on hand was published serially in the Journal; and for some time a list of additions to the library was published in the Journal each month. It was soon learned that without recommendations the purchases made were not entirely satisfactory.

It does seem that we have overlooked something of considerable value to our members and that some effort should be made to develop this library in whatever way will be of most service to the profession.

#### THE STATE NARCOTIC LAW

While we were all so intent on getting some favorable action on the basic science bill during the last session of the legislature, someone put a bill through that practically nullified the State Narcotic Law. Under the title "An act re-

lating to the sale of drugs, amending Section 65-617 of the revised statutes of 1923, and repealing said original section," the following amendment was passed: "Be it enacted by the Legislature of the State of Kansas. Section 1, that section 65-617 of the Revised Statutes of 1923 be amended to read as follows:: Section 65-617. The provisions of this act shall not apply to decocainized coca leaves or preparations made therefrom, or to other preparations of coca leaves or preparations of coca leaves which do not contain cocaine; Provided, This act shall not apply to any preparation containing less than ten per cent alcohol. Section 2. That section 65-617 of the Revised Statutes of 1923 be and the same is hereby repealed."

Section 65-617, which by this act was repealed read as follows:

"Preparations containing opium. The provisions of this act shall not be construed to apply to the sale, distribution, giving away, dispensing or possession of preparations or remedies which do not contain more than two grains of opium, or more than one-fourth of a grain of morphine, or more than one-eighth of a grain of heroin, or more than one grain of codeine, or derivative of any of them, in one fluid ounce, or, if a solid or semi-solid preparation, in one avoirdupois ounce; or to linaments, ointments or other preparations which are prepared for external use only, except linaments, ointments and other preparations which contain cocaine or any of its salts or alpha- or beta-eucaine or any of their salts or any synthetic substitute for them: Provided, That such remedies and preparations are sold, distributed, given away, dispensed or possessed as medicines and not for the purpose of evading the intentions and provisions of this act. The provisions of this act shall not apply to decocainized coca leaves or prepara-

tions made therefrom, or to other preparations of coca leaves which do not contain cocaine."

The word act in this repealed section, as well as in the amendment, refers to the narcotic law as a whole and makes it applicable only to preparations of opium or cocaine containing more than ten per cent alcohol.

This might have led to very serious consequences except for the federal narcotic laws which fully cover the ground.

#### THE INSANE CRIMINAL

The people generally are not so tolerant, as formerly, of pleas of insanity in the defense of criminals, especially criminals who exhibit homicidal tendencies, and particularly in those cases where unique and especially horrible methods of homicide have been used.

The fact that the methods followed are in themselves evidence of insanity has no weight with a public whose sympathies have been outraged by some particularly atrocious murder, and yet in most circumstances this same public would resent the punishment of a criminal who is known to be totally irresponsible for his acts. If and how such criminals should first be tried for their sanity before being tried for the crime alleged, is a question much under discussion.

The chairman of our committee on legislation, during the last session of the legislature, secured some legal opinions in regard to the laws of Kansas in their relation to the trial of such cases.

The following was contributed by John M. Williams, attorney:

*The law relating to the trial of those charged with crime who are suffering from mental disease.*

The general statutes of the State of Kansas provide:

G. S. 62-1531—"Whenever any person under indictment or information, and be-



fore or during the trial thereon, and before verdict is rendered, shall be found by the court in which such indictment or information is filed, or by a commission or another jury empaneled for the purpose of trying such question, to be insane, an idiot, or an imbecile, and unable to comprehend his position, and to make his defense, the court shall forthwith commit him to the state asylum for the dangerous insane for safe-keeping and treatment; and such person shall be received and cared for at the said institution until he shall recover, when he shall be returned to the court from which he was received to be placed upon trial upon said indictment or information."

In the case of the State of Kansas vs. Theodore Ossweiler, 111 Kan. 358 (1922), the defendant was charged with murder. The trial court's attention was called to the fact that the defendant was mentally defective. The Supreme Court of Kansas said:

"In effect the law made the application for the defendant and . . . . . The court was not authorized to proceed with a trial on the merits until it had ascertained by one of the statutory methods whether the defendant was capable of making a rational defense."

In the State of Kansas vs. Detar, 125 Kan. 218 (1928), the defendant was charged with assault with a deadly weapon. The trial court's attention at the time of trial was called to the fact that the defendant might be mentally defective. The Supreme Court of Kansas in reviewing this case laid down this rule with relation to the trial of mentally defective persons:

"Our statutes provides, among other things, for such an investigation before or during a trial and before the verdict is rendered. The inquiry may be made by the court in which the information or indictment is filed or by a commission or another jury impaneled for that purpose, and if the defendant is found to be insane and unable to comprehend his position and to make his defense, the court is

required forthwith to commit him to the state asylum for the dangerously insane for safe-keeping and treatment until he shall have recovered when he shall be returned to the same court and placed upon trial on the criminal charge.

"The necessity for an inquiry was sufficiently brought to the attention of the court at the outset before the jury was empaneled, and certainly after several experts had testified that the defendant was of unsound mind and irresponsible at the time of the trial, good grounds were shown to require the court to stop the trial and investigate his mental capacity to comprehend his position and to make his defense. Under the statute this may be done before or during the trial and at any time before the verdict is rendered. For failure to make the preliminary investigation the judgment is reversed, and the cause remanded for further proceedings."

#### CONCLUSION

Under our Kansas statutes and decisions, a trial court is required by law to investigate the mental condition of any of those charged with crime where such a fact is brought to the attention of the court at any time before or during the trial. As a matter of practice, a trial court generally calls in a board of specialists from the medical profession to make this examination and report to the court and if the report is to the effect that the defendant is unable mentally to present his defense because of mental sickness, the trial court commits him to the state asylum for the dangerously insane for safe-keeping and treatment.

JOHN M. WILLIAMS.

In further commenting on the Kansas law Mr. Williams says:

"Of course, our law does not authorize an investigation of the defendant's mental condition at the time the alleged act was committed. But it does require a report of the defendant's mental condition at the time of trial where such a fact is raised.

"We believe in substance that our

present law accomplished about the same purposes that the Massachusetts law accomplishes."

While the Kansas law seems to provide protection for the insane criminal, it may be suggested that it does not provide the protection to society which is just as essential in the case of an insane as a sane criminal. If the trial of a murderer is stopped until his sanity has been investigated by a commission, and the commission declares him insane, he is sent to the hospital for treatment. If and when he recovers his normal mental state he must be tried for the crime with which he was charged. In the event that several years elapse between his commitment and his discharge from the hospital it is very unlikely that he could be convicted. If he was found insane at the time of the trial it would usually be conceded that he was insane at the time the crime was committed, and at any rate the evidence upon which he would previously have been convicted will at this time be difficult to secure. A more logical procedure, and one offering more protection to the public, would be to let the courts determine if the accused is guilty of the crime charged, then if the question of his sanity has been raised let the commission determine that, and if found guilty and sane let him be sentenced to prison for life, if guilty and insane let him be sentenced to the hospital for life.

The problem would be more easily solved if the idea of punishment in such cases could be eliminated. There is no adequate punishment for murder. In those states where so-called capital punishment is still inflicted the actual punishment is measured by the time elapsing between the sentence and its execution—at least so far as any one knows. But there is always the duty of a state to protect the lives and happiness of its

citizens. An insane murderer, one who kills in the heat of passion, and the willful murderer, are all menaces to society as long as they are at large. There is no guaranty that the cured insane one will not relapse, one who has failed to control his passion once is likely to fail on another occasion, and the willful murderer is too insane or too inhuman to be at large anyway. All of these should, not as punishment but as a protection to the public, be kept in confinement, or as a cold blooded economic measure be killed by the state by some humane but unspectacular method.

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#### R CHIPS

Prof. Guy Dyer of Vanderbilt University is quoted as saying: "Charity is growing faster in this country than any other thing. It is an evil greater than a nation-wide epidemic of typhoid fever for it destroys the soul of man. Let man go hungry for days, let him wear rags, but let him learn to depend upon himself. The government should take care of abnormal and criminal people, but no others. The goal of every charity organization should be its own self-destruction. For the more people we help, the more will seek us out as something to lean against."

In the newspaper reports of a recent trial, in which a wealthy amusement promoter was being prosecuted for an alleged assault upon a young girl seeking employment, some rather surprising disclosures were made. It was said for instance, that the girl appeared in the same ensemble that she wore when the assault was made, and the skirt was four inches *below* the knees—and she was seeking an engagement in vaudeville. In another article it was reported that the defendant stated that the skit, or whatever it was, that the girl wanted him to accept was *too* suggestive—and he was in the vaudeville business.

We have been congratulating ourselves on the apparent fact that through the researches of scientific medicine the average span of human life has been very con-



siderably lengthened. Most all statistics, however, are subject to various interpretations and there are those who do not agree with the conclusion that, because the average age at death has been raised, we are living longer than our fathers. Prof. C. H. Forsyth of Dartmouth College, in *Science*, is quoted as saying: "The expectation of life from age forty-five or fifty on is the lowest of which we have any record—far lower than it was even forty years ago—and it is still going down, not up. With all the improvement in the world at the early ages, the present downward trend at the advanced ages, if unchecked, will continue to dominate and produce a greater and greater net decline in the average length of life."

A case of infection with Vincent's organism which occurred during and in spite of arsphenamine therapy for syphilis, is reported by Williams in the *Archives of Dermatology* for September. The application of sodium biborate as a paste at frequent intervals resulted in clinical recovery in three days. He says: "This case is reported because of the inability of neoarsphenamine in ordinary dosage to prevent the development of Vincent's infection in a patient who had not previously suffered from the disease. It is not believed that the seriousness of the usual case of Vincent's angina warrants the use of the arsphenamines, on account of their relative danger and expense, until other accepted remedies are given a fair trial. Vincent's angina is respected as serious by many physicians but undoubtedly, in many of the reported mortalities, there has only been a secondary invasion of the organism into other oral lesions."

"More attention should be given to the possibility that a tumor in the neck is of branchial origin, especially in view of their frequent simulation of tuberculosis glands and their occurrence in early youth." So say Hyndman and Light in the September number of *Archives of Surgery*. "Branchial cleft anomalies (cysts and fistulas) result from failure of absorption of the included ectodermal and entodermal epithelium

that is buried during the growth and fusion of the branchial arches in early embryonic life. Branchial cysts, in truth, are epidermoid cysts of the neck whose parent epithelium was buried during the development of the branchial apparatus. Their characters are more varied, of course, than those of the commoner epidermoid or inclusion cysts owing to the activity of entodermal or ectodermal epithelium or both. Many of the submaxillary cysts and so-called ranulae are of branchial origin."

An article on constipation and behavior by Ira S. Wile that appeared in the September issue of the *American Journal of Diseases of Children* contains the following: "Certainly the demand for, and often the social insistence on, daily catharsis leads to an attempt to secure this routine performance by the use of special dietaries, enemas, abdominal massage, colonic irrigations and drugs. Such social physiology is responsible not merely for induced evacuations, but for a large assortment of symptoms dependent on an oversolicitude for intestinal action and an astigmatic mental attitude toward what should be a simple physiologic phenomenon. A distortion of the social meaning of the biologic act of defecation has resulted. The cathartic habit is established on the basis of social necessity rather than on biologic demand. The very efforts at inducing social conformity with routine stools are responsible for the existence of much constipation. The series of reactions incidental to the artificial physiologic activity, plus the overcompensating psychologic interest in defecation are distinctly disadvantageous. There is no necessity for creating a hypothesis, based on anal eroticism. The biologic social conflict is wholly sufficient to explain the resultant behaviors."

The results following the use of a ketogenic diet in epilepsy have been encouraging, but have failed in too large a per cent of cases to justify the opinion that ketosis alone is the controlling factor. In spite of marked ketosis some patients with severe epilepsy continue

to have seizures. McQuarrie has reported some investigations, *American Journal of Diseases of Children*, September, 1929, which seem to indicate that the water balance is a factor of considerable importance. He says: "When a patient with severe epilepsy comes under treatment, the seizures may be brought under control by fasting and somewhat stringent restriction of water or by giving nothing but 2cc of 30 per cent cream per kilogram of body weight every four hours during the day for a period of from two to five days. A trial maintenance diet, containing protein, fat and carbohydrate in such proportions as to keep the patient near the border line of ketosis is then given for a number of days, the allowance of carbohydrate being made up largely from relatively concentrated cereal grain products, such as bread. The water is restricted as far as possible without causing the patient too great discomfort."

By trial adjustments of the diet it is ultimately possible to establish a regimen which will maintain the degree of ketosis and level of water intake to prevent the seizures and at the same time meet the physiologic requirements of the body.

—R—

### **Constitution, By-Laws and Resolutions of the Kansas Medical Society as Amended to Date.**

#### **CONSTITUTION**

##### **Article I.—Name of the Society.**

The name and title of this organization shall be The Kansas Medical Society.

##### **Article II.—Purpose of the Society.**

The purposes of this Society shall be to federate and bring into one compact organization the entire medical profession of the State of Kansas, and to unite with similar societies of other states to form the American Medical Association; to extend medical knowledge and advance medical science; to elevate the standard of medical education and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition, and to enlighten and direct public opinion in regard to the great problem of state medicine, so that the profession shall become more capable and honorable within itself and more useful to the public, in the prevention and cure of disease, and in prolonging and adding comfort to life.

##### **Article III.—Component Societies.**

Component societies shall consist of those county medical societies which hold charters from this Society.

##### **Article IV.—Composition of the Society.**

Section 1. This Society shall consist of officers, councilors, delegates, members and guests.

Sec. 2. The officers of this Society shall be a President, a President-elect and one Vice President, a Secretary and a Treasurer, to be elected by the House of Delegates for such terms of office as hereinafter provided.

Sec. 3. The Councilors shall be twelve in number, to be elected by the House of Delegates, one from each Councilor District, and to serve for such terms as hereinafter provided.

Sec. 4. Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component societies in the House of Delegates of this Society.

Sec. 5. The members of this Society shall be the members of the component county medical societies or other societies approved by the Council.

Sec. 6. Any distinguished physician not a resident of this state, who is a member of his own State Society, may become a guest during any annual session on invitation of the officers of this Society, and shall be accorded the privilege of participating in all of the scientific work for that session.

#### **Article V. Councilor Districts.**

There shall be twelve Councilor Districts, comprised as follows:

First District: Nemaha, Brown, Doniphan, Jackson, Atchison, Jefferson, Marshall, Pottawatomie and Riley counties.

Second District: Leavenworth, Wyandotte, Johnson, Douglas, Franklin, Miami, Coffey, Anderson and Linn counties.

Third District: Woodson, Allen, Bourbon, Wilson, Neosho, Crawford, Montgomery, Labette, Cherokee, Elk and Chautauqua counties.

Fourth District: Shawnee, Wabaunsee, Geary, Osage, Morris, Lyon and Chase counties.

Fifth District: Rice, McPherson, Marion, Harvey, Reno, Stafford, Pratt and Kiowa counties.

Sixth District: Kingman, Cowley, Sumner, Harper, Barber, Sedgwick, Butler, Greenwood, Clark and Comanche counties.

Seventh District: Rooks, Osborne, Jewell, Mitchell, Republic, Cloud, Washington and Clay counties.

Eighth District: Lincoln, Ellsworth, Ottawa, Saline and Dickinson counties.

Ninth district: Cheyenne, Rawlins, Decatur, Norton, Phillips, Smith, Sherman and Thomas counties.

Tenth District: Sheridan, Graham, Trego, Gove, Logan, Wallace, Ellis and Russell counties.

Eleventh District: Barton, Rush, Pawnee, Edwards, Hodgeman, Ness, Lane, Scott, Wichita and Greeley counties.

Twelfth District: Meade, Seward, Haskell, Stevens, Grant, Stanton, Morton, Ford Gray, Finney, Kearny and Hamilton counties.

#### **Article VI.—Council.**

The Council shall consist of the President, President-elect, Secretary, and Treasurer, ex-officio, and twelve Councilors one Councilor to be elected by the House of Delegates from each Councilor District. Besides its duties as mentioned in the By-Laws the Council shall constitute the Finance Committee of the House of Delegates. Five Councilors shall constitute a quorum.

#### **Article VII.—House of Delegates.**

The House of Delegates shall be the legislative and business body of the Society, and shall consist



of (1) Delegates elected by the component societies, (2) the Councilors, and (3) ex-officio, the President, Secretary and Treasurer of this Society.

**Article VIII.—Sections and District Societies.**

The House of Delegates may provide for a division of the scientific work of the Society into appropriate sections, and for the organization of such Councilor District Societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

**Article IX.—Sessions and Meetings.**

Section 1. The Society shall hold an annual session, during which there shall be held daily general meetings, which shall be open to all registered members and guests.

Sec. 2. The time and place for holding each annual session shall be fixed by the Council.

**Article X.—Terms of Office.**

Section 1. The term of office of the President, Vice Presidents and Treasurer shall be for one year. The term of office of the Secretary and of the Councilors shall be for three years. All of these officers shall serve until their successors are elected and installed.

Sec. 2. The officers of this Society shall be elected by the House of Delegates on the morning of the last day of the annual session, and no person shall be elected to any office who is not in attendance upon that annual session, and who has not been a member of the Society for the past two years.

**Article XI.—Defense Board.**

A Medical Defense Board consisting of three members of the Council shall be elected at the annual meeting of the Council, for a term of three years; provided, that at the first election one member shall be elected for the term of one year, one for the term of two years, and one for the term of three years. The Medical Defense Board shall elect its own chairman, and the Board shall perform such duties as are provided in the By-Laws.

**Article XII.—Reciprocity of Members With Other State Societies.**

In order to broaden professional fellowship this Society is ready to arrange with other state medical societies for an interchange of certificates of membership, so that members moving from one state to another may avoid the formality of re-election.

**Article XIII.—Funds and Expenses.**

Section 1. Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates, but shall not exceed the sum of \$10.00 per annum, except on a four-fifths vote of the delegates present. Funds may also be raised by voluntary contributions, from the Society's publications, and in any other manner approved by the House of Delegates. Funds may be appropriated by the House of Delegates to defray the expenses of the Society for publications, and for such other purposes as will promote the welfare of the profession. All resolutions appropriating funds must be referred to the Finance Committee before action is taken thereon.

Sec. 2. The sum accruing from two dollars per capita of the annual membership dues of the Society, together with any additional funds specially appropriated, and together with any unexpended residue of previous appropriations for the same purpose shall be set apart and constitute a Medical Defense Fund, and shall be subject to expenditure

on vouchers signed by the Chairman of the Defense Board and countersigned by the President of the Society.

**Article XIV.—Referendum.**

Section 1. A general meeting of the Society may, by a two-thirds vote of the members present, order a general referendum on any question pending before the House of Delegates and, when so ordered the House of Delegates shall submit such question to the members of the Society who may vote by mail or in person, and if the members voting shall comprise a majority of all the members of the Society a majority of such vote shall determine the question and be binding on the House of Delegates.

Sec. 2. The House of Delegates may, by a two-thirds vote of its own members, submit any question before it to a general referendum provided in the preceding section, and the result shall be binding on the House of Delegates.

**Article XV.—The Seal.**

The Society shall have a common seal, with power to break, change or renew the same at pleasure.

**Article XVI.—Amendments.**

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates present at any annual session, provided that such amendment shall have been presented in open meeting at the previous annual session; or that it shall have been recommended by the Council and published twice during the year in the Journal of the Society, or sent officially to each component society at least two months before the meeting at which final action is to be taken.

## By-Laws

**Chapter I.—Membership.**

Section 1. The name of a physician on the properly certified roster of members of a component society, which has paid its annual assessment, shall be prima facie evidence of membership in this Society.

Sec. 2. Any person who is under sentence of suspension or expulsion from a component society, or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of this Society, nor shall he be permitted to take part in any of the proceedings until he has been relieved of such disability.

Sec. 3. Each member in attendance at the annual session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified, by reference to the roster of his society, he shall receive a badge, which shall be evidence of his right to all the privileges of membership at that session. No member shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

Sec. 4. Members of this Society may be enrolled as emeritus or honorary members upon the certified recommendation of the component county society to which they belong. Such recommendation may be based on years of faithful service in the profession, or on other grounds acceptable to the Council. Such emeritus or honorary members shall be entitled to all the benefits and privileges of active members, but shall be exempt from the payment of dues and assessments.

**Chapter II.—Annual and Special Sessions of the Society.**

Section 1. The Society shall hold an annual session at such time and place as has been fixed at the preceding annual session by the Council.

Sec. 2. Special meetings of either the Society or the House of Delegates shall be called by the President on petition of twenty delegates or fifty members.

#### Chapter III.—General Meetings.

Section 1. All registered members may attend and participate in the proceedings and discussions of the general meetings and of the sections. The general meetings shall be presided over by the President or by one of the Vice Presidents, and before them shall be delivered the address of the President and the orations.

Sec. 2. The general meeting may recommend to the House of Delegates the appointment of committees or commissions for scientific investigation of special interest and importance to the profession and the public.

#### Chapter IV.—House of delegates.

Section 1. The House of Delegates shall meet on the first day of the annual session. It may adjourn from time to time as may be necessary to complete its business; provided that its hours shall conflict as little as possible with the general meetings. The order of business shall be arranged as a separate section of the program.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every twenty members, and for each major fraction thereof, but each component society which has made its annual report and paid its assessment as provided in this Constitution and By-Laws shall be entitled to one delegate.

Sec. 3. Twelve delegates shall constitute a quorum.

Sec. 4. It shall through its officers, Council and otherwise, give diligent attention to and foster the scientific work and spirit of the Society and shall constantly study and strive to make each annual session a stepping stone to future ones of higher interest.

Sec. 5. It shall consider and advise as to the material interests of the profession, and of the public in those important matters wherein it is dependent upon the profession and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county of the state, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse among physicians of the same locality, and shall continue these efforts until every physician in every county of the state who can be made reputable has been brought under Medical Society influence.

Sec. 7. It shall encourage post graduate and research work, as well as home study, and shall endeavor to have the results utilized and intelligently discussed in the county societies.

Sec. 8. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the constitution and by-laws of that body.

Sec. 9. It shall, when the best interests of the Society and profession will be promoted thereby, organize in each district a medical society, and all

members of the component county societies, and no others, shall be members in such district societies. When so organized, from the presidents of such district societies shall be chosen the vice presidents of this Society, and the presidents of the county societies of the district shall be the vice presidents of such district societies.

Sec. 10. It shall have authority to appoint committees for special purposes from among the members of the Society who are not members of the House of Delegates. Such committees shall report to the House of Delegates, and may be present and participate in the debate on their reports.

Sec. 11. It shall approve all memorials and resolutions issued in the name of the Society before the same shall become effective.

#### Chapter V.—Election of Officers.

Section 1. All elections shall be by ballot, and a majority of the vote cast shall be necessary to elect.

Sec. 2. The election of officers shall be the first order of business of the House of Delegates, after the reading of the minutes on the morning of the last day of the general session.

Sec. 3. Any person known to have solicited votes for or sought any office within the gift of this Society shall be ineligible for any office for two years.

#### Chapter VI.—Duties of Officers.

Section 1. The President shall begin his term of office on the first day of January following his election and shall serve for one year. He shall preside at all meetings of the Society and of the House of Delegates; shall appoint all committees not otherwise provided for; he shall deliver an annual address at such time as may be arranged, and perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the state during his term of office, and, as far as practicable, shall visit by appointment the various sections of the state and assist the Councilors in building up the county societies and in making their work more practical and useful.

Sec. 2. The President-elect shall serve as such from date of his election until the first day of January immediately following. He shall assist the President in the discharge of his duties and shall preside, in his absence, at the meetings of the Society, and shall be ex-officio a member of the Council at large. In the event of the death, resignation or removal of the President, he shall immediately succeed to that office. In case of a vacancy in the office of President-elect by death, resignation or removal or succession in office, the Council shall elect one of the Vice Presidents to fill such vacancy.

Sec. 3. The Treasurer shall give bond in the sum of \$2,000. He shall demand and receive all the funds due the Society, together with bequests and donations. He shall pay money out of the Treasury only on a written order of the President, countersigned by the Secretary; shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the funds in his hands.

Sec. 4. The Secretary shall attend the general meetings of the Society and the meetings of the House of Delegates, and shall keep minutes of their respective proceedings in separate record books. He shall be ex-officio Secretary of the Council. He shall be custodian of all record books



and papers belonging to the Society, except such as properly belong to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Society which come into his hands. He shall provide for the registration of the members and delegates at the annual session. He shall, with the co-operation of the secretaries of the component societies, keep a card index register of all the legal practitioners of the state by counties, noting on each his status in relation to his county society, and, on request, shall transmit a copy of this list to the American Medical Association. He shall aid the Councilors in the organization and improvement of the county societies and in the extension of the power and usefulness of this Society. He shall conduct the official correspondence, notifying members of meetings, officers of their elections, committees of their appointment and duties. He shall employ such assistants as may be ordered by the House of Delegates, and shall make an annual report to the House of Delegates. He shall supply each component society with the necessary blanks for making their annual reports, shall keep an account with the component societies, charging against each society its assessment, collect the same, and at once turn it over to the Treasurer. Acting with the Committee on Scientific Work he shall prepare and issue all programs. The amount of his salary shall be fixed by the House of Delegates. His bond shall be for the sum of one thousand dollars.

#### Chapter VII.—Council.

Section 1. The Council shall meet on the first day of the regular session, and daily during the session, and at such other times as necessity may require, subject to the call of the chairman, or on petition of three Councilors. It shall meet on the last day of the annual session of the Society, to organize and outline work for the ensuing year. It shall elect a Chairman and Clerk, who in the absence of the Secretary of the Society, shall keep a record of its proceedings. It shall, through its Chairman, make an annual report to the House of Delegates.

Sec. 2. Each Councilor shall be organizer peacemaker and censor for his district. He shall visit the counties in his district at least once a year, for the purpose of organizing component societies where none exist; for inquiring into the condition of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his work, and of the condition of the profession in each county in his district, at the annual session of the House of Delegates. The necessary traveling expenses incurred by such Councilor in the line of his duty herein imposed, together with per diem, not to exceed five dollars (\$5.00), may be allowed by the House of Delegates, on a properly itemized statement, but this shall not be construed to include the expense in attending the annual session of the Society.

Sec. 3. The Council shall be the Board of Censors of the Society. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the component societies, or to this Society. All questions of an ethical nature brought before the House of Delegates or the general meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or component societies on which an appeal is taken from the decision of an

individual Councilor, and its decision in all such matters shall be final.

Sec. 4. In sparsely settled sections it shall have authority to organize the physicians of two or more counties into societies, to be suitably designated so as to distinguish them from district societies, and these societies when organized and chartered, shall be entitled to all the rights and privileges provided for component societies until such counties shall be organized separately.

Sec. 5. The Councilors shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Society, and shall have authority to appoint an editor and such assistants as it deems necessary. All money received by the Council and its agents, resulting from the discharge of the duties assigned to them, must be paid to the Treasurer of the Society. As the Finance Committee it shall annually audit the accounts of the Treasurer and Secretary and other agents of the Society, and present a statement of the same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Society during the year and the amount of all other property belonging to the Society under its control, with such suggestions as it may deem necessary. In the event of a vacancy in the office of the Secretary or the Treasurer, the Council shall fill the vacancy until the next annual election.

Sec. 6. The Council shall have power to create committees from its number and to endow them with authority to act in the interim between annual meetings of the Council upon all matters which would ordinarily require called or special meetings of the Council.

#### Chapter VIII.

Section 1. It shall be the duty of the members of the Defense Board severally or collectively to investigate all claims of malpractice made against members; to take full charge of all cases which after investigation they will have decided to be proper cases for defense, and prosecute such defense to the end, pay all costs of such defense, but they shall not pay or obligate the Medical Defense Board or The Kansas Medical Society to pay any judgment rendered against any member upon the final determination of any such case. They shall be empowered to contract with such agents or attorneys as they may deem necessary.

Sec. 2. The assistance for defense, as herein provided, shall be available only for members of The Kansas Medical Society in good standing. No member shall be defended for an action unless he was a member of the Society and a resident of the state at the time when the alleged malpractice was committed.

Sec. 3. It shall be the duty of any member of this Society threatened with a suit or suits for malpractice, to immediately notify the president of the county society of which he is a member, who shall at once send him an application blank, for the names of witnesses and so forth, and on receipt of this blank properly filled in, the president shall immediately appoint a committee, of which he shall be the chairman, and they shall proceed to investigate the charge made against such member.

Sec. 4. This committee shall examine the defendant member and his witnesses, if necessary under oath. If the committee shall agree that it is a case to be defended, it shall so report to the Chairman of the Defense Board of this Society.

If this county committee shall decide that it is not a case to be defended, the defendant may appeal direct to the Defense Board of The Kansas Medical Society, which shall in all cases have the final decision whether a case is to be defended or not. The findings of these committees, if unfavorable, are to be communicated to the defendant alone.

#### Chapter IX.—Committees.

Section 1. The standing committee shall be as follows:

A Committee on Scientific Work;

A Committee on Public Policy and Legislation;

A Committee on Arrangements, and such other committees as may be necessary. Such committees shall be elected by the House of Delegates, unless otherwise provided.

Sec. 2. The Committee on Scientific Work shall consist of three members, of which the Secretary shall be one, and shall determine the character and scope of the scientific proceedings of the Society for each session, subject to the instruction of the House of Delegates. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented.

Sec. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Society in securing and enforcing legislation in the interest of public health and of scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall strive to organize professional influence so as to promote the general good of the community in local, state and national affairs and elections.

Sec. 4. The Committee on Arrangements shall be appointed by the component society in which the annual session is to be held. It shall provide suitable accommodations for the meeting places of the Society and of the House of Delegates, and of their respective committees, and shall have general charge of all the arrangements. Its chairman shall report an outline of the arrangements to the secretary for publication in the program, and shall make additional announcements during the session as occasion may require.

#### Chapter X.—County Societies.

Section 1. All county societies now in affiliation with this Society, or those which may hereafter be organized in this state, which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall, on application, receive a charter from and become component parts of this Society.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a Medical Society shall be organized in every county in the state in which no component society exists, and a charter shall be issued thereto.

Sec. 3. Charters shall be issued only on approval of the Council and shall be signed by the President and Secretary of this Society. On the recommendation of the Council, the House of Delegates shall have authority to revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution or By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county. Where more than one county society exists, friendly overtures and concessions shall be made, with the aid of the

councilor for the district if necessary, and all the members brought into one organization. In case of failure to unite, an appeal may be made to the Council, which shall decide what action shall be taken.

Sec. 5. Each county society shall judge of the qualifications of its own members, but as such societies are the only portals to this Society and to the American Medical Association, every reputable and legally registered physician who does not practice or claim to practice, nor lend his support to any exclusive system of medicine, shall be eligible to membership. Before a charter is issued to any county society, full and ample notice and opportunity to become a member shall be given to every physician in the county who is eligible, as hereinafter provided.

Sec. 6. Any physician who may feel aggrieved by the action of the society of his county, in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council, and its decision shall be final, and determine whether or not the physician appealing shall hold membership in the society.

Sec. 7. In hearing appeals the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a board and as individual councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. A member removing from one county to another shall automatically become a member of that component society in whose jurisdiction he resides, without other formality than the transfer of his name on the membership rolls, and the Secretary of this Society shall make such transfer when informed of such change of residence, and shall notify the secretaries of the component societies concerned of such transfer and they shall record the same.

Sec. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the society in whose jurisdiction he resides.

Sec. 10. Each component society shall have general direction of the affairs of the profession in the county and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county, and systematic efforts shall be made to each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. At some meeting in advance of the annual session of this Society, each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Society in the proportion of one delegate to each twenty members or major fraction thereof, and the secretary of the society shall send a list of such delegates to the Secretary of this Society at least ten days before the annual session.

Sec. 12. The secretary of each component society shall keep a roster of its members, and of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this state, and such other information as may be deemed necessary. In keeping such roster the secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to



account for every physician who has lived in the county during the year.

Sec. 13. The secretary of each component society shall forward its assessment, together with its roster of officers and members, list of delegates, and list of non-affiliated physicians of the county to the Secretary of this Society on or before the first day of February of each year.

Sec. 14. Any county society which fails to pay its assessment, or make the report required, on or before the first day of February, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any business or proceedings of the Society or the House of Delegates until such requirements have been met. And a member of any component society who is shown in said report to be in suspension shall not be reinstated by said component society without formal action at a regular meeting of such society, following upon a favorable report of its board of censors, said action to be certified to the Secretary of this Society with notice of the member's reinstatement.

Sec. 15. Physicians residing in counties where no component county society exists, who hold membership in any district medical society, independent or otherwise, whose principles or organizations are recognized by the Council as not incompatible with those of this Society, may by virtue of such membership be accepted as members of this Society. Applicants for membership in this Society under this provision must have their credentials certified to this Society by the proper officials of the given district society; but their membership dues must be paid by them directly to the Secretary of this Society.

#### Chapter XI.—Miscellaneous.

Section 1. No address or paper before the Society, except those of the President and orators, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject, except by unanimous consent.

Sec. 2. All papers read before the Society or any of the sections shall become its property. Each paper shall be deposited with the Secretary when read.

Sec. 3. The deliberations of this Society shall be governed by parliamentary usage as contained in Robert's Rules of Order, when not in conflict with this Constitution and By-Laws.

Sec. 4. The Principles of Medical Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

#### Chapter XII.—Amendments.

These By-laws may be amended at any annual session by a majority vote of all the delegates present at that session, after the amendment has lain on the table for one day.

### RESOLUTIONS

#### Committee on Necrology.

Resolved, That the Chair appoint a permanent committee of three to be known as the Committee on Necrology, whose duty it shall be to make note and report to the Society all deaths of members during the year. (Adopted Session of 1910.)

#### Committee on Public Health and Education.

Resolved, That the President of this Society appoint a committee of five, to be known as a Committee on Public Health and Education, to work in conjunction with the Committee of the American

Medical Association, of like name. This committee to work under the direction of this Society and its Council in furthering the knowledge of preventative medicine, and especially a knowledge of cancer, and the importance of an early diagnosis among the lay public. (Adopted May, 1913, session.)

#### Committee on Medical School.

Resolved, That the President appoint a committee to get statistics from the Dean of the University and establish a closer relation between the Kansas Medical Society and the Rosedale School of Medicine. (Adopted session of May, 1916.)

#### Committee on Emblem of K.M.S.

Resolved, That the House of Delegates adopt the design of the emblem used at this meeting as a permanent emblem of the Kansas Medical Society. (Adopted session of May, 1926.)

Description of Emblem: Gold staff and serpent on a green cross on a white background with the name Kansas Medical Society in gold letters around the margin.



Resolved, By the House of Delegates of the Kansas Medical Society, that any member of this Society shall be regarded as unethical, who organizes, conducts, or participates in the operation of a free clinic which is not under the continuous approval and supervision of the County Medical Society having jurisdiction where the clinic exists. (Adopted session of May, 1926.)

### SOCIETIES

#### SHAWNEE COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Shawnee County Medical Society was held at the Hotel Jayhawk, Monday evening, October 7, the meeting being preceded by a dinner.

Approximately sixty members of the society were present to hear Dr. James G. Carr, Professor of Medicine, Northwestern University Medical School discuss "The Etiology and Significance of Cardiac Pain."

The following resolution on the death of Dr. John Calhoun McClintock, was unanimously adopted:

It is appropriate that we halt somewhat our activities, that we hesitate a little in our progress, while we adjust our memories to recalling the virtues and accomplishments of those who have passed to the great unknown, the ultimate and inevitable terminus of our procedures.

The most recent of our decedents was John Calhoun McClintock among whose most prominent attributes was an ar-

tistic temperament and a mechanical ingenuity that helped to make of him a great surgeon. The beginning of his surgical career was coincident with the advent of asepsis which gave to the world practically a new art and presented an unexplored and unlimited territory to the adventurous surgeon. There was little experience and few landmarks for those who had the courage to enter these long forbidden fields. With his artistic temperament, his mechanical ingenuity, his keen perception, his retentive memory and his tireless efforts, Dr. McClinck became an accurate diagnostician and a skillful operator with surgical judgment, the three essential factors in the making of a great surgeon.

He was timid of praise, sensitive to criticism and diffident in the society of his fellows. His accomplishments were unheralded and his great experience unrecorded except in the memories of those intimately associated with him and his work.

Let his passing fix in our memories those virtues most prominently featured in his life among us. Let us in reverential unanimity communicate these sentiments in sympathetic consolation to his bereaved family and inscribe them in the minutes of this meeting.

The November meeting will be held at the Topeka State Hospital.

EARLE G. BROWN, M.D., Secretary.

#### RUSH-NESS SOCIETY

The Rush-Ness County Medical Society held its October meeting at Dr. L. A. Latimer's hospital at Alexander at 8 p. m., Wednesday, October 2.

Dr. Roy Russell presided. The minutes of the previous meeting were read and adopted. A letter of appreciation from Dr. Nothdurft was passed around to the members present to read.

No other business matters to come up so the scientific program was opened. Dr. F. D. Smith of La Crosse read a paper on "Constipation." A general discussion of the paper followed.

Dr. M. F. Russell of Great Bend gave a talk on pathological conditions of the genito urinary tract. Case reports and x-ray films with histories of renal cal-

culi and stricture of the ureter. He also gave a short talk on pyelitis, etiology, etc.

Dr. C. W. Zugg of Great Bend read a paper on "Tonsils, pathological conditions and technique of operation." He gave a short talk on Vincent's angina. There followed a general discussion of the paper.

It was decided to hold the next meeting at Dr. Roy Russell's office in Ness City the first week in December, the exact date to be determined by the condition of the weather at that time. Lunch was served. Inspection of the hospital followed.

It was agreed to ask Dr. Chas. Ewing of Larned to give a talk at the next meeting. Dr. W. Singleton was asked to present a paper on "Influenza" at the next meeting. Meeting adjourned. Members present were Drs. Robinson, Attwood, Latimer, Smith, Russell, and Singleton. Guests, Dr. M. F. Russell and Dr. C. W. Zugg, both of Great Bend.

W. SINGLETON, M.D., Secretary.

#### DICKINSON COUNTY SOCIETY

The Dickinson County Medical Society met at Enterprise, Kan., as guests of Dr. Theo. Kroesch, October 24. Dr. E. J. Reichley of Herington read a paper on "Eclampsia" and gave several case reports. Dr. C. H. Munger, recently appointed full time health officer, was elected to membership and gave a talk on public health work. The work of the county health officer was freely discussed and it was voted to co-operate with the health officer.

The following officers were elected for the coming year: Dr. H. Marshall, Herington, president; Dr. W. A. Klingberg, Hope, vice president; Dr. Daniel Peterson, Herington, secretary-treasurer; Dr. H. R. Turner, Hope, censor.

DANIEL PETERSON, M.D., Secretary.

#### CLAY COUNTY MEDICAL SOCIETY

After a vacation of three months, the Clay County Medical Society held its regular meeting at the Clay Center Hospital Wednesday evening, October 16. A large number of doctors and nurses were present.



The speaker of the evening was Dr. James Elliott of Kansas City, Mo., who addressed the Society on the subject, "Fractures of the Spine." His lecture was illustrated by lantern slides and was most interesting and instructive. A part of the evening was spent in conducting an orthopedic clinic.

X. OLSEN, Secretary.

#### FRANKLIN COUNTY SOCIETY

The annual meeting of the Franklin County Society was held at the Country Club, Ottawa, October 30th. An address of welcome was delivered by Mayor Geo. B. Ross after which the following papers were read: "Treatment of Pulmonary Empyema," Dr. C. C. Nesselrode, Kansas City; "Headaches," Dr. Charles H. Neilson, St. Louis; "Treatment of Pruritus Ani and Vulvae," Dr. Granville S. Hanes, Louisville, Ky.

The following officers were elected: President, Dr. P. R. Young, Ottawa; Vice-President, Dr. G. G. Kreeger, Richmond; Secretary-Treasurer, Dr. George W. Davis, Ottawa; Delegates to annual meeting, Dr. F. A. Carmichael, Osawatomie and Dr. J. R. Scott, Ottawa.

There was a banquet in the evening and Dr. L. F. Barney, Kansas City, acted as toastmaster: Dr. W. A. Elliott, Pastor of the First Baptist Church spoke on the "Ransom Memorial Hospital"; Dr. Logan Clendenning's subject was "The Human Body"; Dr. Hanes talked about diseases of the alimentary tract. Dr. Nesselrode talked about pus diseases of the chest and Dr. Neilson's subject was "Our Neurotic Patients."

The ladies were guests of the Webster Theater and at a tea at the home of Dr. and Mrs. W. J. Scott.

A golf tournament had been arranged but on account of the bad weather it was abandoned.

#### BOOKS

Tularemia by Walter M. Simpson, M.D., director of diagnostic laboratories Miami Valley Hospital, Dayton, Ohio. Published by Paul B. Hoeber, Inc. Price \$5.00.

Although apparently a new disease in human beings tularemia has assumed considerable importance. The author gives a history of the disease, its zoolog-

ical distribution, its clinical manifestations, and its pathology, bacteriology, serology, diagnosis and treatment. This disease seems to be more and more prevalent and every practitioner should be familiar with its characteristic features.

The Treatment of Diabetes Mellitus with Higher Carbohydrate Diets by William David Sansum, M.D., Percival Allen Gray, M.D., Ruth Bowden, B.S. Published by Harper Brothers, New York. Price \$2.50.

The authors have outlined in this book a diet plan which puts the diabetic patient more nearly under normal conditions. Under this plan their patients have felt physically stronger and mentally more alert. They consider this new dietetic treatment a distinct step in advance.

Human Anatomy, an introduction to the study of by R. J. Terry, A.B., M.D. Professor of Anatomy, Washington University, St. Louis. Published by the Macmillan Company, New York.

This is intended for a laboratory textbook in which instructions for dissection are associated with questions requiring careful examination of the parts under study. It is not illustrated but references are frequently made to anatomical atlases where illustrations may be found.

Clinical Medicine for Nurses by Paul H. Ringer, M.D. Third edition. Published by F. A. Davis Company, Philadelphia. Price \$3.00.

This book of instruction for nurses seems to have met the requirement to some degree at least. It strikes one, however, as being adapted for the instruction of a doctor's assistant. It is unfortunate that no decision has been made as to what a nurse ought to know. In every training school the student nurses are required to spend a great deal of time acquiring knowledge of no practical value to them—time that could be used to better advantage. A condensed textbook on surgery, obstetrics or clinical medicine can hardly meet the needs of a training school even though it may apparently fill the demand.

International Clinics, a quarterly of illustrated clinical lectures and especially prepared original articles, edited by Henry W. Cattell, M.D., with the collaboration of numerous others. Vol. III, 39th series, 1929. Published by J. B. Lippincott Company, Philadelphia.

In this volume Katherine H. Coward presents a resume of what is known about vitamins. Burn tells how biological products are standardized. Deaderick describes the technic of intravenous medication. Waugh has a very interesting paper on the causes of chronic hoarseness in adults. Drueck talks about the spastic colon. Demel discusses the indications for the operative treatment of fractures. North discusses acute intestinal obstruction. Lacey has an article on the "traumatic abdomen." These are only a few of the articles in this volume in which there are many interesting subjects discussed.

Intern's Handbook by members of the faculty of the College of Medicine Syracuse University, directed by M. D. Dooley, M.D. Published by J. B. Lippincott Company, Philadelphia.

This is a handy little book that provides prompt information on many subjects, such as about the use of standard drugs, treatment for poisoning, and the standard clinical procedures, medical, surgical and special. It gives information about diets, describes the technic of routine tests and various laboratory procedures. Perhaps the most important part of the book is that which outlines an examination as it should be made.

The Medical Clinics of North America. (Issued serially, one number every other month.) Volume 13, No. 2. (Chicago Number, September 1929.) Octavo of 232 pages with 61 illustrations. Per clinic year, July, 1929, to May, 1930. Paper, \$12.00; cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

Serious effects of epistaxis in cardiovascular conditions is the subject discussed by Elliott in this number of the clinics. Pollock comes next with an article on the neurologic aspect of optic neuritis. Grulee has a very instructive article on the anemias of infancy. Williamson describes a group of mediastinal cases. Hamburger describes four cases of intraventricular block showing some interesting and unusual clinical features. Keeton discusses the objects and methods of treating pneumonia. Robertson reports two cases of meningitis due to pneumococcus type III. Drennan and Val Dez report some cases of esophageal obstruction. Davis reports four cases of arterial hypertension with electrocardio-

graphic studies. Palmer discusses some phases of the ulcer problem. Gerstley has an article on chorea, Sloan one on pernicious anemia. There is a dermatologic clinic by Finnerud and a clinic by Meyer, one by Traut, one by Wakefield, one by Priest, one by Streicher and one by Harsha.

Diseases of the Chest and the Principles of Physical Diagnosis, by George W. Norris, M.D., Professor of Clinical Medicine in the University of Pennsylvania, and Henry R. M. Landis, M.D., Professor of Clinical Medicine, University of Pennsylvania; Director of the Clinical and Sociological Departments of the Henry Phipps Institute of the University of Pennsylvania, with a chapter on the Transmission of Sounds Through the Chest, by Charles M. Montgomery, M.D., and a chapter on the Electrocardiograph in Heart Disease, by Edward Krumbhaar, Ph.D., M.D. Fourth Edition, Revised. 954 pages with 478 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth \$10.00 net.

This book has again been revised and it was found necessary to add some new material and discard some that had become obsolete. The authors stress the point that laboratory aids are corroborative and not diagnostic. If they can teach clinicians how important it is to learn how to use their special senses in diagnosis they will have accomplished something worth while. However, they have not omitted descriptions of these laboratory aids and have carefully described their use.

Medical State Board Questions and Answers. By R. Max Goepp, M.D., Professor of Clinical Medicine in the Graduate School of Medicine, University of Pennsylvania. Sixth edition, thoroughly revised. Octavo volume of 754 pages. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$6.00 net.

The questions contained in this book have been compiled from lists of questions asked by state boards of examiners during the past four years. The answers have been taken largely from standard text books. Those preparing for state board examinations will find this book of very great assistance to them.

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#### A New Research Fellowship

Announcement has been made that the Maltbie Chemical Company of Newark, N. J., has contributed a grant for a research fellowship for the coming year to



the Philadelphia College of Pharmacy and Science.

The research work to be done under this fellowship will be fundamental in character and will cover a study of the toxicity, pharmacology and bactericidal efficiency of creosote, creosote compounds, and constituents of creosote. The work to be done under this fellowship follows the chemical researches on creosote of the past year under the Maltbie Chemical Company Fellowship at Princeton University.

The establishment of this research fellowship continues the policy of the Maltbie Chemical Company to contribute to the study of the chemistry and pharmacology of important drugs.

—————R—————

#### **The Modification of Powdered Milks Governed By the Same Rules As Cow's Milk**

When physicians are confronted with undependable fresh milk supplies in feeding infants, it is well to consider the use of reliable powdered whole milks such as the well-known Mead brand. Such milk is safe, of standard composition and is easily reliefs.

Under these conditions, Dextri-Maltose is the physician's carbohydrate of choice just as it is when fresh cow's milk is employed.

The best method to follow is first to restore the powdered milk in the proportion of one ounce of milk to seven ounces of water, and then to proceed building up the formula as usual.

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#### **Announcement**

By popular request from our many friends and customers, we have opened a first class prescription wholesale and dispensing house, located on the fifth floor of the Frisco Building, Joplin, Missouri, to better serve this fast growing metropolis of the Ozarks and surrounding territory.

The branch is under the management of the able A. W. McCarty, with W. S. Olsen assisting, both men of long experience in the optical business.

There we have a modern equipped shop including a four unit Tillyer plant for grinding corrected lenses, enabling

us to compete with any house, regardless of size.

The stock is in keeping with the present day demands, consisting of the popular Shur-On Fall Style lines, Bay State Zylo line, Bausch & Lomb frames, and others. Tillyer lenses, Softlite lenses, Cruxite lenses, as well as all popular bifocals.

We extend to you a cordial invitation to visit our new branch.

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#### **The Antipellagic Vitamin**

Evidence has been furnished that the so-called accessory food factor formerly designated as vitamin B and supplied in comparative abundance by yeast apparently contains, in addition to the antineuritic vitamin, a factor which promotes growth and cures and prevents dermatitis in rates; consequently it has been regarded as identical with the "P-P" factor described by Goldberger and others as curative and preventive of human pellagra. The newest American designation of this is vitamin G—the vitamin B<sub>2</sub> of British biochemists. There is little doubt that both of these water-soluble vitamins are essential to growth and well being; and it seems reasonably certain that pellagra is due to a vitamin deficiency. It is now known that unheated yeast is rich in both and that cereals contain more vitamin B than vitamin G; milk and meat, the reverse. The vitamin G value of wheat and maize is low, as is that of dried legumes such as peas. Meat and egg yolk are richer in vitamin G than are the cereals, while liver and fresh milk are excellent sources of this dietary adjuvant. (J.M.A., October 12, '29.)

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#### **The Committee on Foods**

The need of some body to express judgment of food products and food advertising, in the same way that the Council on Pharmacy and Chemistry considers medical preparations, has become apparent. The Council has therefore created a special committee on foods. The manufacturers of food products, distributors and all others interested in the promotion of natural food

substances or of modified foods, for which claims are made in relation to the promotion of good health, will be asked to submit to the committee the products and the advertising material used in advancing their sale. If a product is found acceptable by the committee, advertisements of it will be permitted in the publications of the American Medical Association, the product will be listed in the book on foods similar to New and Nonofficial Remedies, and the manufacturers will be permitted to use a symbol indicating that the product has been accepted by the committee for listing in the book of foods. If the product cannot reach the standards set forth, a report will be published as is done for drug products, and advertising of the preparation will not be permitted in the publications of the American Medical Association. The work of the Committee on Foods should do much to carry still further the message of good hygiene and of scientific medicine. In beginning this work, the Council on Pharmacy and Chemistry again asks the complete support of the medical profession. Only by the sincere co-operation of the medical profession with the committee can it achieve the prestige necessary to complete attainment of its objects. (J.M.A., October 12, '29.)

#### **Present Conception of Essential Hypertension**

Arthur Stanley Granger, Los Angeles (J.M.A., Sept. 14, '29), asserts that essential hypertension is a condition characterized by a persistent systolic blood pressure of 145 mm. of mercury, or over, and a left ventricular cardiac hypertrophy, without demonstrable cause, though the hypertension may exist in the early stages without the cardiac enlargement. There is no definite cause for this condition. The factors most concerned are heredity and vasomotor hyperirritability. Vascular lesions of the medulla, affecting the vasomotor center, probably may produce a rise in the systemic pressure, but there is no proof that a hypertension does not precede such lesions. Sclerotic changes in the afferent arterioles of the renal glomeruli are almost pathognomonic of essential hyper-

tension and are the most common pathologic finding. The height of the diastolic pressure is probably of greatest moment in determining the prognosis. The cause of death, in a series of patients with essential hypertension, was cardiac failure in 52 per cent, cerebral vascular accidents in 31.5 per cent, uremia in 5.5 per cent and intercurrent disease in 11 per cent. Treatment should be directed mainly toward a regulation of the life and habits of the individual, so as to promote rest, freedom from worry and aggravation, and moderate pleasurable exercise. Dietary restrictions are of use only in the obese, or when cardiac or renal incompetence occurs. Drugs have a very small field in this condition. A frank discussion of the ailment by the physician and the patient is advisable in most instances.

#### **Progress in Prevention of Deafness**

Horace Newhart, Minneapolis (J.A.M.A., Oct. 12, '29), concludes that the periodic testing of the hearing acuity of school children with the audiometer, by revealing the early loss of hearing, is at the present time the most effective means of initiating measures for the prevention of deafness and the conservation of hearing among school children. The greatest need of the movement, now well under way, is the interest, active co-operation and leadership of the physician, especially the otolaryngologist. The movement would be greatly expedited by the inauguration of a well directed campaign of publicity calling attention to the value of periodic hearing tests and to the possibilities of the prevention of deafness.

#### **Electrocardiogram in Acute Infections**

Clough Turrill Burnett and George F. Piltz, Denver (J.A.M.A., Oct. 12, '29), present a series of 100 patients who, following some acute infection, were especially studied with reference to possible heart injury. None of these had shown any signs or symptoms of heart diseases prior to the recent infection. No cases of scarlet fever, diphtheria or frank rheumatism were included and none of these patients gave a history of rheumatic fever; twenty-eight of these furnished significant changes in the electro-



cardiogram. In twenty of these, symptoms and other signs of heart disease were lacking or confusing, and in only three of the twenty-eight were either heart signs or symptoms sufficient to indicate heart injury. Pathologic and clinical evidence support the view that in the course of many types of acute infection the heart tissues are injured. Clinical recognition of this injury is often difficult or impossible. The electrocardiogram offers a means of diagnosis in a sufficiently large proportion of these cases to render its more general employment worth while.

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#### **Influence of Inorganic Elements on Blood Regeneration in Nutritional Anemia**

The technic employed in the experiments on rats made by Victor C. Myers and Howard H. Beard, Cleveland (J.A.M.A., Oct. 19., '29), was essentially that of Hart and Steenbock. Young rats were placed on a diet of whole milk for six weeks after weaning. When the erythrocyte count was about 3 to 4 million per cubic millimeter and the hemoglobin content 3 to 4 Gm. per hundred cubic centimeters, additions of various supplements were made daily to the milk. The experiments show that when growing rats have been rendered anemic by an exclusive milk diet, and 0.5 mg. of iron is given daily, traces of manganese, nickel, copper, germanium and arsenic all have a definite supplementing action on hemoglobin regeneration. All these elements, with the exception of nickel, have at some time in the past been recommended therapeutically in the treatment of anemia. The present observations are in large measure an experimental verification of older clinical observations.

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#### **Diet in Etiology and treatment of sterility**

Donald Macomber, Boston (J.A.M.A., Oct. 19, 1929), asserts that there is a large body of evidence, both experimental and clinical, which shows that alterations in diet actually do produce sterility. An analysis of the diets eaten by 206 sterile women shows that they deviate in many important ways from normal. The average diet for the 206 women was found to be 71.8 Gm. of protein, 80.5 Gm. of fat and 227 Gm. of carbohydrate, with

a total of 1,968.9 calories. A large number of these women show evidence of nutritional disturbances. By increasing the protein in the diet about 10 per cent, likewise the total calories, forty of the 206 women have become pregnant to date, even though practically all of them were seen for the first time within the last two years, and this result has occurred, at least in part, as the result of changes in diet and such other measures as the increasing of exercise, the taking of endocrine medication or the treatment of anemia. It seems to Macomber that regulating diet is a means of treating sterility which one cannot afford to neglect.

—R—

#### **Coccidioidal Granuloma**

The added knowledge that the recording of each new instance of this rare disease gives, and its apparent spread throughout the United States, prompted D. Schyler Pulford and E. Eric Larson, Woodland, Calif., (J.A.M.A., Oct. 5, '29), to report this case. This patient, although infected by a virulent organism, lived one year and four months. During this time, among other measures, colloidal lead, as used for cancer, colloidal copper, as recommended by Jacobson, and intravenous injections of gentian violet were used in the treatment without avail. However, gentian violet did seem to retard the progress of the disease. They conclude that this case of generalized coccidioidal granuloma infection illustrates and confirms the conclusions of previous investigators. Gentian violet and roentgen treatments appear to have a temporary beneficial effect. Colloidal lead, colloidal copper and vaccine had no effect. Death occurred sixteen months after the primary infection, which seemed to be pulmonary in origin and of a rather virulent type. Autopsy showed a widespread predominately bony distribution. The ever-widening distribution of the reported cases of coccidioidal granuloma forces one to the conclusion that the disease is either spreading or being better recognized by the medical profession. Consequently it should no longer be called "the California disease." The mode of onset, clinical course and pathologic changes closely resemble

those of tuberculosis, which it is often erroneously diagnosed, but the disease is caused by its own specific fungus *Coccidioides immitis*.

—R—

### Blue-Domed Cyst in Chronic Cystic Mastitis

Joseph Colt Bloodgood, Baltimore, (J. A.M.A., Oct. 5, '29), asserts that the blue-domed cyst is a definite gross pathologic entity. It cannot be mistaken for, or confused with, any other breast lesion. Clinically, in more than 98 per cent of the cases there are no definite signs of a malignant growth on the part of the skin or the nipple. In the large majority the palpable tumor is spherical and gives fluctuation, but this does not differentiate it from the cancer cyst and the papillomatous cyst. So far, these blue-domed cysts have transilluminated clear. In a small percentage of the cases the blue-domed cyst is so buried in breast tissue that it cannot be differentiated, on palpation, from any other benign or malignant tumor. Transillumination promises help here. When one makes a frozen section of the wall of a blue-domed cyst, one may see the same histologic pictures which predominate in the diffuse papillary cystadenoma, or the encapsulated or nonencapsulated types of cystic adenoma. When women report in the early stages of breast lesions, the first difficulty is to find the definite lump for which operation is indicated. The second is to learn how to interpret the fresh frozen section of this lump when it is removed because, if it is not cancer, the breast can be saved. If it is cancer, the complete operation for malignant disease should be done.

—R—

### Undulant Fever

The characteristics of *Brucella melitensis* organisms have only recently been fully described. A. V. Hardy, Iowa City (J.A.M.A., Sept. 21, 1929), feels that a classification of strains isolated from human beings cannot now be regarded as a reliable index of the importance of the different varieties as a cause of human disease. A special effort should be made to obtain a detailed postmortem study in all fatal cases of undulant fever. The pathologic lesions and clinical signs of

*Brucella melitensis* infections in animals show a definite correlation. The epidemiologic data, based on the reports of more than a thousand recent cases of undulant fever in the United States, indicate that cattle and hogs with contagious abortion are the source of these infections. Macroscopic agglutination tests on patients with febrile illnesses of undetermined etiology should be made more frequently. Additional study is essential in order to determine effective and applicable methods of control.

—R—

### Undulant Fever

Walter L. Bierring, Des Moines, Iowa (J.A.M.A., Sept. 21, 1929), reviews and analyzes 150 cases of this disease and discusses its clinical history and treatment in detail. An accepted agglutination titer and the demonstration of *Brucella melitensis* variety *abortus* in pure culture in the blood stream should always be required for a positive diagnosis. For the present, symptomatic treatment offers the most for the patient with undulant fever, his activities being regulated by keeping him at rest in bed as long as the febrile state persists, administering sedatives for insomnia, headache and other distressing symptoms, and, most important, giving an abundant nourishing diet. The convalescence is often prolonged over a long period and careful attention is necessary by means of psychic encouragement, physical therapy and other stimulating measures to insure a complete return to the normal state of health.

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### Modern Methods of Treatment of Pulmonary Tuberculosis

John A. Seiver, Colorado Springs, Colo. (J.A.M.A., Sept. 28, 1929), states that the modern method of treatment of pulmonary tuberculosis necessarily begins with its prevention. With the compulsory pasteurization of milk now in use in large cities, the careful inspection of dairy herds and elimination of infected cattle, glandular and bone and joint tuberculosis have practically become a thing of the past. In the field of prevention of pulmonary tuberculosis, the work of Calmette today offers hope. His treatment consists in giving to children



during the first week of life three oral doses of 0.01 Gm. of B C G culture obtained by attenuating virulent bovine bacilli. The prevention of the disease by removing the infant from contact with tuberculous parents and placing him in wholesome rural environments was the method instituted by Grancher. These experiments successfully proved his contention that tuberculosis is a contagious and not an hereditary disease. Numerous preventoriums and institutions for undernourished children throughout the United States have done much, together with our improved methods of diagnosis, in eradicating the incidence of tuberculosis in children. The same factors of early diagnosis and hospitalization have contributed to make adult tuberculosis less formidable, both to the patient and to his family and friends. General improvement in living conditions has probably had a tremendous effect in reducing morbidity and mortality. All the modern methods of treatment that have attained any marked degree of success have one prime factor in common: rest in general and rest of the diseased lung. The more completely this aim is attained, the more certain and permanent the desired results will be. It may safely be stated that, of all the methods employed, rest alone in one form or another has stood the test of time.

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### **Tobacco Smoking**

In a series of 150 adult male smokers reported on by Wingate M. Johnson, Winston-Salem, N. C. (J.A.M.A., Aug. 31, 1929), the systolic blood pressure was 128.23, the diastolic 78.87. In the same number of nonsmokers, the average systolic pressure was 129.64, the diastolic 79.23. The average age was practically the same, 42.63 years for the smokers, 42.41 for the nonsmokers. The weight of the smokers was 164.44, of the nonsmokers 161.08. The height was the same. Of sixty fatal cases of angina pectoris in males, forty-two, or 70 per cent, were in smokers; eighteen, or 30 per cent, in nonsmokers. As a control, of 1,000 adult males taken from telephone directories in five cities, 81.8 per cent were smokers. In a series of twenty individuals tested,

the blood pressure after smoking showed no change in five but dropped in fifteen. The average fall in blood pressure after smoking for the whole group was 4.9 systolic, 3.4 diastolic. Johnson concludes from these data that tobacco smoking apparently has no permanent effect on the blood pressure. There is no foundation for the popular belief that smoking decreases the weight of an individual. It is doubtful whether tobacco plays a major part in the etiology of angina pectoris. The act of smoking, if it affects blood pressure at all, reduces it temporarily. The effect of tobacco smoking is chiefly local, exerted principally on the pharynx.

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### **Dysinsulinism**

In case of dysinsulinism of six years' duration reported by Goldwin Howland, Walter R. Campbell, Ernest J. Maltby and W. L. Robinson, Toronto (J.A.M.A., Aug. 31, 1929) attacks of coma and convulsions increasing in their frequency but warded off by the administration of food were found to be caused by low blood sugar levels. A study of the case revealed the erratic response to carbohydrate administration unless suitably administered and led to the diagnosis of the cause as an islet cell tumor of the pancreas. At operation a tumor of the pancreas was found and removed and a fruitless search for metastases was made. The patient recovered and has since been entirely free from the attacks. This constitutes the first successful treatment of such a case in the literature. The tumor was found to be a slow growing carcinoma of the islets of Langerhans and insulin was recovered from the tumor mass.

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### **Shock in Obstetrics**

Fourteen women with shock and hemorrhage during and after delivery have been treated with intravenous infusion of a 6 per cent solution of acacia in solution of sodium chloride 0.9 per cent in the Mayo Clinic. In each instance, definite benefit has occurred and no untoward effect has resulted. In several cases, Lawrence M. Randall, Rochester, Minn. (J.A.M.A., Sept. 14, 1929), is convinced that life has been saved by the early use of so-

lution of acacia and by the postponement of operative procedures until the initial shock has been controlled. Randall's experience, and that of others, would indicate that this solution has definitely established itself in the treatment of shock. Blood transfusion has proved its merit in cases of shock and hemorrhage. The need in shock is for fluid that will remain in the circulation, and not for erythrocytes. Larger amounts of fluid than can be obtained from a single blood transfusion from a single donor often can be given with benefit. Acacia apparently fulfils all the requirements for intravenous treatment of shock except furnishing erythrocytes. It has been proved to be innocuous in several series of cases. It increases the volume of plasma and blood and keeps it increased until the normal fluid-regulating mechanism of the body is restored. As a preventive of shock it is often well to give an injection of solution of acacia in cases in which the patient is fatigued or debilitated and in which obstetric operations are to be performed.

R

### Crossing Legs As Factor in Production of Peroneal Palsy

Henry W. Woltman, Rochester, Minn. (J.A.M.A., Aug. 31, 1929), asserts that in the consideration of paralysis of the peroneal nerve, pressure incident to crossing the legs has been neglected as a cause. In a small series of twenty-seven cases, it was found to occur eight times as often in men as in women. It usually does not appear before the fourth or fifth decades of life and is seen most frequently in patients who are forced into inactivity by illness and who have lost considerable weight. It may be regarded as one of several factors productive of neuritis, existent in the same patient. Spontaneous recovery is the rule.

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# THE JOURNAL

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### Diabetes Mellitus of Infectious Origin

GEORGE H. PENWELL, M.D., Marquette

Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

Fundamentally, diabetes mellitus may be defined as a deficiency of the internal secretion of the islands of Langerhans of the pancreas. A more thorough definition would of course include a description of the resulting disturbance in the glycogenic function of the liver, and a statement of the symptoms of this deficiency, the most outstanding of which is glycosuria.

It has been known ever since the investigations of Von Mehring and Minowski<sup>1</sup> that typical diabetes mellitus can be produced by the removal or destruction of a sufficiency large portion of the pancreas. There are many cases on record of diabetes occurring as the result of an acute pancreatitis. Therefore diabetes is not necessarily caused by special constitutional or hereditary factors, but may be purely of exogenous origin, such as the infections and toxemias. Allen<sup>2</sup> states that in most if not all cases of diabetes, there must have been a preceding disease of the pancreas, and that such disease usually damages both insular and acinar cells. Joslin believes that an antecedent pancreatitis would appear to be the most logical explanation of the production of insular insufficiency.

As a matter of fact most cases of diabetes do show pathological changes in the pancreas, ranging from a partial fibrosis to complete hyaline degeneration of the islet tissue. According to Clendening, these findings are demonstrable in about eighty-seven per cent of diabetics coming to autopsy. The rest may appear normal or show a decrease in the number of islets of Langerhans.

Among the large number of etiological factors ascribed to diabetes mellitus, serious attention has not been paid to the

possibility of infectious origin, inasmuch as diabetes does not bear the appearance of an infectious disease. However, of late, the fact that in some localities the incidence of diabetes has been on the increase, has caused more attention to be given the possible epidemiology of the disease. According to statistics, the increase in occurrence of diabetes far exceeds that to be expected as the result of increase in population.

In a study of the death rates of children from diabetes there was found a fairly rapid rise in death rate until the age of eighteen to twenty is reached. Then as rapid a decline in diabetic death rate until the age of thirty. This would lead us to believe that the development of sex probably plays an important part in the development of the disease at these ages. This together with the possibility of the effects of infection may contribute largely to the origin of diabetes mellitus.

It may be inferred that the underlying cause of diabetes is pancreatitis. It is well known that pancreatitis, either acute or chronic, is often the result of an infectious process involving the pancreas either primarily or secondarily. The infection may reach the pancreas by direct means or may be indirectly developed through the agency of a toxemia arising from infection elsewhere in the body.

Among the principal infectious processes which may develop diabetes must be mentioned scarlatina, parotitis or mumps, typhoid, syphilis, general septicemias and toxemias, diseases of the gall bladder, and focal infections in the tonsils, teeth, para-nasal sinuses, prostate, appendix and other parts of the body.

That there is the possibility of a virus having a selective affinity for the pancreas has been demonstrated by Gunder-  
sen<sup>3</sup> in his study of the relationship be-

tween mumps and diabetes occurring in the juvenile group. He states as follows: "In parotid gland infections, mumps, we have a virus having an affinity for a certain gland, usually the parotid being attacked, but occasionally producing an orchitis or a pancreatitis."

The possibility of acute pancreatitis following mumps has received but little comment in the literature. However pancreatitis as a complication of mumps has often been noted by careful observers.

Cheinisse is of the opinion that a mild pancreatitis is one of the most frequent complications of mumps. Likewise Farnum has collected one hundred twenty cases of parotitic pancreatitis and states that in certain individuals we may have a pancreatitis of this type occurring without development of the parotitis, much as orchitis sometimes does.

Hognestad has reported three cases of parotitic pancreatitis and in one of these a temporary glycosuria was noted. It is probable that glycosuria would frequently be found in these cases if carefully looked for, generally being of a transitory nature though occasionally developing into a true diabetes mellitus.

It is very difficult to estimate the frequency with which pancreatitis develops complicating mumps, since most physicians who see these cases fail to associate the occurrence of vomiting, colic, abdominal pain and tenderness with the possibility of pancreatitis.

It is only reasonable to believe that such pancreatitis will doubtless, in many cases, bring about damage to the pancreas and before the diabetes manifests itself, a period of time has elapsed, and the mumps with its attendant pancreatitis is long ago forgotten. Thus accurate data is lacking.

In 1924, Adam Patrick collected five cases of diabetes mellitus following attacks of parotitis. Clinical evidence of acute pancreatitis was manifest in three.

In 1925, Stephens reported four cases of so called mumps of the pancreas in boys six to twelve years of age.

Therefore considering mumps as an etiological factor in the production of diabetes, one would naturally expect that an epidemic of mumps would be followed

during the next few years with an increase in diabetes among those of the age group which suffered the mumps epidemic. Gundersen<sup>3</sup>, working on this phase of the problem, gathered statistics showing that the mumps epidemic of 1900-1901 occurring in Norway was followed during the succeeding four years by a marked increase in the development of diabetes among those of the age group having suffered most from the mumps. An epidemic of 1908-1909 was likewise followed by an increase in the incidence of diabetes, and after the epidemic of 1915-1916, another rise which declined in 1919, only to rise again following another epidemic of mumps in 1920-1921. The diabetes following these epidemics was severe in type, death occurring in the course of about three years.

It is only logical to assume that since parotitis orchitis very often produces atrophy of the testicle, parotitic pancreatitis is likewise apt to lead to a secondary atrophy of the pancreas. Such an atrophy of the pancreas is often a pathological finding in cases of diabetes mellitus which come to autopsy, with occasionally a cirrhosis of the entire organ. The question arises whether the rapidly fatal and grave forms of diabetes found in juveniles, is not due, in some cases, to the rapid destruction of the pancreas with atrophy following acute parotitis pancreatitis, while the milder forms of diabetes generally found in older persons may be due to a slower type of pancreatic degeneration which is oftentimes incomplete.

There are many cases on record of marked improvement of diabetes following a clearing up of all possible sources of infection. Since focal infections can temporarily and sometimes permanently lower carbohydrate tolerance in individuals with diabetes, there is evidence to show that the presence of focal infections probably is in some cases an actual causative factor in diabetic development.

Pemberton<sup>10</sup>, in his studies of rheumatic individuals, noticed a sustained elevation of the blood sugar curve in patients with active joint infections, following the administration of a glucose meal. These blood sugar curves returned to



their normal characteristics following the removal of focal infections and disappearance of the rheumatism. Most of us have seen cases of diabetes which though moderately severe in type, became mild cases requiring only slight dietary restrictions, following the removal of sinus infections, apical abscesses, infected appendices or diseased tonsils.

Chronic infections of the focal type should not be overlooked, and because of the insidiousness of this type of infection, much damage can be done before one can be brought to realize its presence. Because of the well known dangers attending surgery upon the diabetic, they should not be subjected to even the most insignificant of surgical procedures unless the disease is kept under the most strict control, though this should not deter one from the removal of all foci which can be safely and conveniently eradicated.

Of interest in the consideration of focal infections as a causative factor in the production of diabetes, are the findings of Barach<sup>12</sup> who in a series of three hundred sixty-two cases of diabetes, found enlarged and diseased tonsils in approximately one-third. In another series of two hundred twenty-six cases, he noted a history of recurrent tonsillitis and the presence of diseased tonsils at the time of examination in nearly half.

Walter R. Campbell of Toronto, Canada, says: "Prominent among the causes of diabetes is infection, though in such a chronic disease as diabetes it is seldom that it becomes evident as an acute easily diagnosable pancreatitis. Undoubtedly, however, many cases of indefinite distress in the upper abdomen vaguely diagnosed as indigestion, chronic cholecystitis, etc., are really pancreatitis in its subacute form. Much of the damage to the islet cells must arise as a degeneration due to the effect of toxins." Doctor Campbell also reports a patient having fifty boils and acute diabetes. The boils were cleared up after a duration of two months. The symptoms of diabetes disappeared and the patient was sugar free even after giving glucose to the point of nausea, and has been so for three years.

Beck and Pollock<sup>13</sup> in discussing path-

ological conditions in the nose and throat as causative agents in diabetes, remark that the importance of focal infections as such cannot be overestimated.

Boyd<sup>14</sup> had on record, in 1923, thirty-two cases of diabetes mellitus in children, in which infections of various types preceded the onset of diabetes and feels that diseased tonsils are a common cause by producing a toxic degeneration of the islets of Langerhans.

From these records it would seem that focal infections are to be seriously considered as possible causes of diabetes. In persons predisposed to diabetic disturbances, any infection may be the releasing factor making a latent disease become manifest. It is always possible that a mild diabetes may have existed for some time before the infection occurred.

Biliary infections and gall stone obstructions have been experimentally causes of pancreatitis, and clinically have been much discussed and considered as predisposing causes of diabetes, although Joslin noting the comparative rarity of jaundice in diabetics considers that this together with the pathologic findings, indicates that only a minority of diabetic cases have their origin in biliary and duct infections.

Owing to its protected position, it is probable that primary infection of the pancreas is rare. But due to its anatomical relationship, its blood and lymphatic supply, it is easy to conceive of a secondary pancreatitis following diseases and infections of the gall bladder, stomach and intestines. In this connection, Deaver has called particular attention to the rich lymphatic supply of the pancreas, the vessels of which anastomose freely with those of the stomach, duodenum, spleen, liver, gall-bladder, bile ducts and colon. There is an especially free connection with the duodenum, gall-bladder and bile ducts. Graham and Peterman found that prussian blue injected into the wall of the gall-bladder followed the lymphatics into the liver and down the lymphatics of the common duct into the pancreas. The dye also traversed the lymphatics from the liver itself to the pancreas. The same authors showed that the injection of pathogenic organ-

isms into the portal vein produced a hepatitis and the infection spread to the gall-bladder, bile ducts and pancreas. This is in support of Sudler's<sup>16</sup> work, who has shown how an infection of any one of three organs, liver, gall-bladder and pancreas, means a co-existing infection of the other two, since the lymphatic vessels of the three organs form one communicating system. Since infection in the portal system can give rise indirectly to a pancreatitis, it can be seen how pancreatitis could arise from disease in the stomach, colon, appendix or even infected hemorrhoids.

In 1910, Mayo Robson<sup>29</sup> demonstrated that in many cases of cholecystitis with glycosuria he could effect a permanent disappearance of the glycosuria by draining the gall-bladder. This was again proven in 1913 by the late John B. Murphy<sup>17</sup> who also mentioned a case of diabetes with urinary sugar of seven per cent, who six weeks after gall-bladder drainage was practically sugar free on a liberal carbohydrate diet. A definite pancreatitis was found at the operation.

Rabinovitch<sup>18</sup> in routine examination of the blood sugar of cases of cholecystitis in the Montreal General Hospital, found a hyperglycemia in over eighty per cent, though not sufficient to produce a glycosuria. Heyd and Killian<sup>19</sup> state that a hyperglycemia of 200 mgms per 100 cc. of blood is not an uncommon finding in patients with cholecystitis, however after surgical removal of the gall-bladder the blood sugar returns to normal.

Eustis<sup>20</sup>, Harris<sup>21</sup>, Barling<sup>22</sup> and Jones<sup>23</sup> all feel that cholecystitis is a factor in causing pancreatitis and probably an important etiological factor in the production of diabetes mellitus. Likewise W. J. Mayo<sup>24</sup> states that removal of the gall-bladder promptly relieves the symptoms and permanently cures the patient of the symptoms of pancreatitis, and chronic pancreatitis, the result of gall stone disease, is usually cured by removal of the stones and drainage of the gall bladder or biliary tract. Judd<sup>25</sup> has also observed that pancreatitis occurs frequently with cholecystitis and is entirely relieved by surgical treatment

of the cholecystitis, and Richin<sup>26</sup> in his series of diabetes, has noted that from seventy to eighty per cent suffered from a co-existing cholecystitis.

From the foregoing evidence it seems conclusive that there is a close relationship between infections of the gall-bladder and biliary tract and pancreatitis, and subsequently, diabetes. It would seem that if surgery is so beneficial in relieving the symptoms of pancreatitis, it should be also beneficial in relieving, to some extent at least, diabetes mellitus, providing that the islet degeneration has not reached an irreparable stage. Stubbs<sup>27</sup> and others have reported cases of diabetes similarly benefited by surgery of the gall-bladder. That such steps should not be delayed is emphasized by Moynihan<sup>28</sup> who feels that chronic pancreatitis is generally due to gall stone disease and if not checked may produce such sclerosis that the whole secretory substance of the islets of Langerhans will be destroyed. In fact Allen<sup>2</sup> has found few specimens of diabetic pancreas which did not show some such marks of damage or infection as the presumable cause of the diabetes, and believes that the removal of all infection should be carried out, reminding us that the significant lesion being a pancreatitis, all predisposing factors should be removed.

It is impossible to discuss infections, general or local, without a consideration of syphilis. Opinions vary as to the frequency with which syphilis plays an etiological role in the production of diabetes. According to Warthin, syphilis has been demonstrated as a cause of pancreatitis both in embryonic and post embryonic life. Castronuovo, of the Naples University Medical Clinic, maintains that special importance should be placed upon the immediate and late effects of syphilis in producing pancreatitis. That the pancreas is not immune to the depredations of the *spirocheta pallidum* has been amply demonstrated at many autopsies. Worthy of mention is a case of Carnot and Harvier<sup>31</sup> who report a patient suffering from neurosyphilis associated with severe diabetes, showing at autopsy a sclero-gummatous pancreatitis, destroying all but a few



remnants of glandular tissue, demonstrating clearly a syphilitic pancreatitis as a cause of diabetes.

Not always is pancreatitis and diabetes due to actual infections of the pancreas. The absorption of toxins may play an important part although the effect is not so well marked. However there is some evidence to support this as an etiological factor. Areas of focal necrosis have been observed in the pancreas in cases coming to autopsy after an overwhelming toxic absorption following an extensive severe burn, and similar areas have been found following acute toxemias. Diabetes is clinically made worse and the carbohydrate tolerance is lowered during the course of and following toxemias.

With the acute toxemias are to be considered the acute septicemias. The rather high mortality of the acute septicemias has no doubt prevented many cases of pancreatitis of this type from being reported in the literature. Diabetes may develop during the course of an acute septicemia or may gradually develop months or years later. In a case of this type under my care, a glycosuria developed for a few days during the height of the infection, disappeared during the convalescent period, only to reappear several months later as a manifestation of diabetes in a very severe form.

Since the deficiency of the islet secretion may become manifest suddenly or gradually, this probably explains the wide variation in histories obtained. In a few patients the symptoms begin either during or soon after a severe known infection, but in a vast majority the symptoms develop either gradually or suddenly with no other history of previous infection than is ordinarily encountered in the life of an average individual.

In only a small proportion of human beings does infection injure the pancreas to the extent of producing diabetes, but once this injury has occurred, every important infection in the body thereafter causes additional injury to the islet tissue, at least temporarily, thus giving rise to considerable doubt in most cases as to whether the original infection was the primary cause of the diabetes or whether

it merely activated an already existing mild or latent diabetes.

This is important inasmuch as the injury causing diabetes is permanent in nature, while the aggravation of symptoms and lowering of carbohydrate tolerance during an acute infection are usually transitory, provided suitable dietary and therapeutic measures are instituted to meet the increased demands created.

It seems that we have not been paying enough attention to the etiological factors behind the pancreatic insufficiency in diabetes. We are most of us prone to make a diagnosis of diabetes as a disease entity and treat it as such, without much thought as to whether or not the disease was the result of hereditary factors, obesity, arteriosclerosis, syphilis, or pancreatitis resulting from infections and toxemias.

#### REPORT OF CASE. DIABETES OF INFECTIOUS ORIGIN

Mrs. G. H., white, age twenty-five, multipara.

Past health had always been of the best. She had contracted the ordinary diseases of childhood, but had had no serious illnesses during adult life with the exception, that she had considerable difficulty with both of her previous deliveries which necessitated the use of forceps in both instances, and reports a stormy convalescence each time. There was no familial history of diabetes and numerous examination of the urine prior to this failed to reveal any trace of sugar.

There was nothing in the history of the patient to lead one to suspect that diabetes mellitus might exist either latent or in a developmental stage.

Three days prior to my interest in the case, this woman was delivered by an irregular practitioner of an infant which died during the process of delivery. The placenta was delivered manually immediately following the birth of the child. There was a second degree laceration of the perineum, which remained unrepaired, and considerable hemorrhage.

On the third day following the delivery, the former practitioner was dismissed and I was asked to take charge of the case. The patient had been having

severe chills followed by marked rises in temperature up to 104° and 105°. The vulva was involved in an intense cellulitis which extended half way down the median surfaces of both thighs and up over the symphysis. There was excruciating pain following the slightest movement of either extremity, making accurate examination impossible excepting under an anesthetic.

The following day the cellulitis had extended over both thighs, laterally and upward over the lower half of the abdomen, and around over the lumbar region of the back. It resembled a typical erysipelas. The condition of the patient grew worse. A blood culture revealed the presence of a hemolytic streptococcus infection. The urine examinations revealed albumin and both hyaline and granular casts, but no sugar.

For the first week the patient became gradually worse, delirium and coma occupying a prominent position. It was necessary to catheterize in order to empty the bladder. The patient vomited frequently and when rational complained of epigastric pain of great severity. There was marked tenderness and considerable increased muscle tension over the epigastrium.

It was about at this point that a reaction for sugar was first observed upon urinary examination. The patient had been receiving large amounts of glucose intravenously and by rectum. Upon quantitative determination it was found that the patient was passing about thirty grams of urinary sugar during a period of twenty-four hours.

This glycosuria persisted during the next four weeks of the stormy convalescence, in spite of the fact that the glucose intake was diminished, though gradually lessening in amount and finally disappearing altogether.

At the end of eight weeks the patient was ready for discharge from the hospital, and was dismissed with instructions to have the urine examined at least every month for quite some time, since I felt that the severe epigastric distress and vomiting, coupled with the simultaneous appearance of glycosuria, indicated an acute pancreatitis which might

be followed by more or less permanent damage to the islets of Langerhans.

The patient gained weight and strength rapidly, and of course neglected her periodical urinary examinations until eight months later when she suddenly realized that she was losing her weight and strength again as rapidly as she had gained it. She brought in a specimen which gave a very strong reduction. A twenty-four hour specimen showed that she was passing fifty grams of glucose in twenty-four hours. The blood sugar was two hundred twenty. She was immediately placed on the proper diet, with the aid of Insulin, and became sugar free. She was able to live a comfortable existence, maintain her normal weight, and do her regular amount of house work, until two years later when she developed a lung abscess following an attack of influenza. This additional burden so disturbed the sugar equilibrium that she sank into diabetic coma. Insulin and carbohydrates brought her out of this, only to have the lung abscess in its turn, erode into an artery of the lung, resulting in immediate death from an overwhelming pulmonary hemorrhage.

#### SUMMARY

1. The most frequent cause of diabetes is pancreatitis, either acute or chronic.

2. Acute pancreatitis may be the expression of a general infection or a focal infection, or may occur independently of infection elsewhere in the body.

3. The symptoms of pancreatitis may be overshadowed by those of the infective process, and may not be recognized or may be so slight as to escape notice.

4. Chronic inflammation of the pancreas, as elsewhere, may be the result of microorganisms of low virulence acting over a long period of time, or the result of repeated attacks by various types of organisms, or may follow an acute infection of severe type.

5. Pancreatitis may result through the selective action of a virus as in parotitis, as shown by the frequency with which pancreatitis and diabetes follow mumps.

6. Due to the close anatomical relationship between the pancreas, gall-bladder, liver and bile ducts, diabetes may result



from a pancreatitis following infection of one of these structures, the infection spreading from one to another through the network of lymphatics.

7. Diabetes may follow pancreatitis, arising from septicemia, toxemia, or syphilis.

#### CONCLUSION

The part played by infections in producing diabetes is important inasmuch as the injury causing diabetes is permanent in nature, while the aggravation of symptoms and the lowered carbohydrate tolerance during an acute infection is generally transitory, the tolerance returning in some degree, in most cases after the disappearance of the infection, provided suitable dietary and therapeutic measures are instituted to meet the increased demands thus created.

Infections of the teeth, tonsils, gastrointestinal tract or any part of the body, as well as the general systemic infections are to be regarded as possible causes of diabetes mellitus, and should be thoroughly eradicated, wherever safely possible, both as a prophylactic measure and as part of the regular treatment of the disease.

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#### Podalic Version

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Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

It is the intent, in this paper, to consider briefly the generally accepted technic of podalic version; and to discuss in detail the indications for this procedure.

We will suppose it has been decided to perform podalic version. The patient is prepared, locally and generally, as for a major operation. She is anesthetized to the surgical stage, preferably with ether. She is brought to the end of the table; the thighs separated and horizontal, feet hanging down, supported at the knees either by assistants or two chairs. The bladder is emptied, the field of operation cleansed. The perineum and vagina are fully stretched by the hand of the operator, using green soap as a lubricant. Dilatation of the cervix is completed. I prefer using both hands for this, the first and second fingers of each hand. The membranes are separated from the uterine wall, high enough to allow palpation of the child. Providing the membranes have not ruptured, it is yet possible to change over to cesarean section, if some condition is found warranting that operation. If version is chosen, one now inserts the hand, the palm of which will meet the child's abdomen, provided the operator is reasonably ambidextrous. The uterus being well relaxed, the feet are grasped, the membranes rupturing; if the feet are crossed, the legs are straightened and brought parallel; the arms must remain folded. Both ankles are grasped between the first and second fingers and gentle traction made. The wrist and later the thumb, of the operating hand, is used to push up the head and

the outside hand is used to elevate and follow up the head. Both feet are brought out of the vulva until the knees are exposed, at which time the version is completed; the anesthesia may be lightened. Gentle traction is made on the legs, the outside hand maintaining flexion of the head, and guiding its descent, no severe pressure being exerted. The child slides down, sitting on the perineum, following naturally the curves and diameters of the parturient canal. As the buttocks are delivered, rotation again occurs as the trunk comes down the canal, and the head engages at the superior strait. As the shoulders present, the body of the child is lowered, bringing the anterior scapula into view, perhaps aided by two fingers inserted under the symphysis. The scapula being delivered, the arm is hooked out at the elbow, the child rotated so that the posterior shoulder is brought forward and delivered anteriorly, as was the first shoulder, avoiding over-twisting of the neck. Considerable pressure may now be exerted on the occiput by the outside hand or an assistant. As the face presents at the vulva, the child is lifted nearly to a perpendicular position; the head is delivered slowly by pressure from above and gentle traction on the mouth, or by low forceps. The throat and mouth may be cleared of mucus before delivery of the head.

I have here hastily sketched what may be termed a "standard" method of version, to be modified, of course, to meet different conditions, such as premature rupture of membranes. Complete details of this work may be found in Potter's "The Place of Version in Obstetrics."

A few essential points will here be emphasized. In a paper published in 1903 I said: "Dilate the cervix and lower uterine segment thoroughly until they seem practically paralyzed; upon the completeness of the dilatation depends the success of this method." Failure to practice my own preaching cost the only life I have lost by performing podalic version. I should have left the membranes unruptured, and performed a section. The perineum and vagina must be thoroughly ironed out. The uterus must

be relaxed, by means of deep anesthesia; no relaxed uterus need be ruptured unless there is fatty or hyaline degeneration present. Haste and violence must be avoided, no severe pressure nor strenuous pulling in extraction. Keep always in mind the pelvic and foetal diameters and angles; lighten the anesthesia, and beguile the child from his secluded home. Give the mother pituitrin as soon as the head is born.

When considering the indications for podalic version, we find a wide divergence of opinions. In general, I would employ version in nearly all cases where I was taught to use high forceps. I have not used them in years, and never expect to again on an unengaged head. Version inflicts no such damage on the child or mother as do the high forceps. Where there is serious disproportion between foetal and maternal measurements, as in flat and rachitic pelvis, we agree on cesarean section; also in placenta prævia centralis. In the majority of cases offering slight disproportion in size, and in lateral placenta prævia, version is the safest procedure.

Version is the operation of choice in uterine inertia, mal-positions of the child, prolapse of the cord, severe varicose veins of vulva and vagina. I add to that any condition of mother or child that is likely to make a prolonged labor unduly dangerous to either, for version results in less shock, exhaustion and traumatism than a prolonged labor.

I do not consider the pendulous abdomen an indication unless uterine inertia is present. Nor can I, at present at least, agree with a recent writer that version is an operation of election, to be employed generally in all cases that are not delivered spontaneously before the operator can prepare for version. That sounds too much like our friend from a neighboring state who advises forceps in all cases where there is time to boil the forceps.

Each case of rigid or diseased cervix, subnormal pelvis, or abnormal child must be judged separately; I know of no general rule.

Podalic version is often considered to be strictly a hospital procedure. While



very convenient, hospital facilities are not absolutely necessary. But there are two requirements, asepsis and a good anesthetist, other essentials can be supplied with untrained helpers.

What may we expect to accomplish by podalic version, following the technic and indications outlined above?

1. The time of labor is shortened.
2. Less laceration of the mother.
3. Fewer injuries to the child.
4. Less sepsis because of 1 and 2; and because the manipulations are all at one time.

In general, a lowered mortality rate for children and a lowered morbidity rate for mothers.

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### The Modern Treatment of Pulmonary Cavitation

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Read before the Sedgwick County Medical Society, April 10, 1929.

A dissertation of this character is quite far reaching in scope and we must of necessity limit our remarks to the most commonly encountered disease, viz: Pulmonary tuberculosis, bronchiectasis and lung abscess. The crux of the situation revolves itself around that most interesting and intriguing treatment, though comparatively new in this country, being first conceived on the continent, but I might add being perfected in the States. The treatment to which I refer is compression therapy in the treatment of chronic lung infection.

Without going into great length and lauding the efficiency of artificial pneumothorax, but realizing that it is one of the standardized and accepted procedures, let us merely state that our discussion relative to it will be merely casual and only as it enters into the picture in conjunction with other forms of compression therapy.

In 1912 Mary Lapham presented artificial pneumothorax before the National Tuberculosis Association in such a forceful manner that from that time it began to be used more or less generally. Of course its usage, sporadically, antedates this considerably, but I might add that

most of the pioneers in the work began their series of cases about this time.

In reviewing the literature relative to tuberculo-therapy, one is struck by two amazing facts, first: the relative indifference towards tuberculous infection, and secondly: a reluctance to apply a more active and radical means to the treatment of far advanced tuberculosis. There exists among physicians and patients the hazy notion that the operative shock and mortality are terrific, the pain unendurable, and that the survivors are grossly mutilated, and at their best are only able to eke out a burdensome existence of a few years at the most. This is considerably at variance with the true status of affairs when one acquaints himself with the present day technique and results.

In view of the fact that pulmonary tuberculosis is the predominant manifestation in lung cavitation, let us first review statistically the result of cases with excavation.

To evaluate properly the prognostic significance of cavitation, and to awaken as from an apparent lethargy, allow me to quote the statistics of Barnes. Working at the State Sanatorium of Rhode Island at Wallum Lake, he compiled a series of cases, numbering 1454. In this compilation all these cases had an excavation of at least 2 c.m. in diameter. Of this number 80 per cent were dead within the first year; 82 per cent died within 2 years; 85 per cent died within 3 years, and 90 per cent died within 5 years. This merely portrays our inadequacy to cope with an absolute intolerable situation. Favorable results in the surgery of pulmonary tuberculosis depends upon great discretion in the selection of cases, early and skillfully executed complete operations, with strict attention to post operative care, including not less than 6 months curing, preferably in a sanatorium.

What, then, are the indications for operative interference? I can best exemplify these by citing a case. We have here an individual who has been ill for the past 5 or 6 years. He has followed all the prescribed training as taught him in the sanatorium, has persisted intelli-

gently in the cure since leaving the sanatorium, and has reached the point where his condition is stationary. In the beginning of his cure he had a massive lesion upon the left side, involvement from the apex to the base—a condition which was largely exudative in character. Due to the fact that he had some involvement in the upper right, it precluded pneumothorax. He now has maintained this regime for a long period, and it is needless to state that he is quite tired of his job. At the end of 5 years we have the following picture: Replacing the exudative process in the left lung we find a large amount of fibrosis interspersed with air containing tissue, and the condition has largely confined itself to the excavation in the upper left, from which he expectorates approximately 70 c.c. of a purulent sputum during a 24 hour period. This remains laden with bacilli. The right side has continued to heal and it is one of apparent arrestment. This individual realizes that the majority of far advanced cases pass on to exitus in 5 years and he is desirous that something additional be tried. Of course the operative procedure here is a complete thoracoplasty. It is an unwritten law that in all cases in which thoracoplasty is anticipated, that pneumothorax should have been tried. It was tried in this case to no avail, and after a preliminary radical phrenectomy, a 2-stage thoracoplasty was done. It is needless to state that in all cases you must have an operative risk, free from complication and preferably afebrile. In the case above mentioned, he was above his normal weight, allowed to be up 8 hours a day, and was walking 3 miles per day. He realized the potentiality of his health and this provoked the operation.

Another factor should be borne in mind. Prior to the advent of this operation we exercised considerable more patience and struggled along with these cases, but today, unless a far advanced case makes a comparatively rapid recovery, he is very prone to be headed for surgery. I merely want to stress this point, so that with our enthusiastic exuberance we may temper our selection of cases with ample discretion.

#### CONTRA-INDICATIONS

All cases should be free from complications. No cases of enteritis, bone, gland or joint tuberculosis should be considered. Bi-lateral cavitation is another contra-indication. Thearle recently told me of a case in which he effected a result, but he cautioned against it, and since his series now has accumulated the immense proportions of 160 cases, it is well to follow his advice. A lesion at the base and considerable trouble in the hilus of the contra-lateral lung is a contra-indication almost universally accepted. The greatest single factor essential in the operative procedure is a good heart. All these cases that have had a chronic toxemia for many years are sure to have myocardial changes, and with an atrophic heart and blood pressure hovering around 100 reticence should be the foreword.

#### RADICAL PHRENECTOMY

Preliminary to all thoracoplastic surgery we do a radical phrenectomy. Phrenicotomy, or simple division of the phrenic nerve in the cervical region, was first suggested by Steurtz in 1911, but little interest was manifested until 1922 when Felix and Goetz began reporting their observations. They showed that the hemi-diaphragm was not completely paralyzed in 25 to 30 per cent of the cases in which simple section of the nerve was done. This was due to the fact that they failed to intercept the accessory branch of the phrenic which comes off 7 c.m. below the first rib. The method in vogue at the present time is the "Phrenicus Exeresis" operation of Felix. It is a relatively simple operation. An oblique incision is made along the upper border of the sterno-cleido mastoid muscle, and the nerve dissected free from fascia. Considerable traction is made, and by slowly tearing it out one is usually able to get from 15 to 25 c.m. of the nerve. Frequently the patient can feel it quite distinctly when it pulls away from the diaphragm.

The result of this operation is an atonic paralysis of the hemi-diaphragm with an elevation of the diaphragm in the chest. Naturally the distance which it will elevate is dependent upon the



number of pleural adhesions and the amount of pulmonary fibrosis. In the report of Felix, he states that the average distance in height between the two sides of the diaphragm after a radical exeresis is approximately 7 c.m. at the end of inspiration, and 3 c.m. at the end of expiration. Since very little or any additional work is thrown upon the contra-lateral lung, it does not necessitate that the opposite lung be free from activity, and in this respect it differs from both artificial pneumothorax and thoracoplasty.

The applicability of this procedure is indicated (1) in early cases of tuberculosis, especially in those cases in which the response to sanatorium regime is unsatisfactory; (2) in those cases where there is a marked exudative reaction of a bi-lateral nature. It is well to do this on the side of greater involvement; (3) in the chronic types of cases which contra-indicate thoracoplasty and artificial pneumothorax and the lesion is largely basal; (4) as a supplementary measure to artificial pneumothorax. It has the advantages in that pleural effusions are smaller and fewer in number and the refill time considerably lengthened. (5) As a preliminary operation to thoracoplasty. Its advantages preliminary to surgical collapse are (a) easier coughing and expectoration, which reduces to some extent the post-operative risk of aspiration; (b) greater adjustment of thoracic viscera for the consequences of thoracoplasty.

#### THORACOPLASTY

The classical operation today for the closure of pulmonary cavitation is the paravertebral extrapleural thoracoplasty of Sauerbach. It is as its name implies, an operative procedure, extrapleural in character, paravertebral because of its location, and it involves the resection of a portion of the ribs from the first to the eleventh inclusive. The amount of ribs resected must be entirely individualized, and is dependent upon the size of cavity presenting itself. Naturally with a large cavity the resection will be greater than if a small one is compressed. At times it is necessary in this procedure to do a parasternal operation, but this is not the

rule. The amount of ribs resected is variable, but usually approximates from 120 to 140 c.m. Preliminary to this operation a radical phrenectomy is done, and after 10 days has elapsed the first stage is completed, removing a portion of the first to fifth rib inclusive. We now permit another two weeks to elapse and then the second stage is completed. It is quite essential to do the second stage before the ribs have had a chance to regenerate from the periosteum. In event this regeneration and bridging across had occurred it immobilizes the ribs recently operated upon, and you are unable to get a uniform and symmetrical settling of the entire chest. The number of ribs resected at an individual sitting is dependent upon the physical condition of the patient, and his tolerance to the operative procedure. Often it is necessary to operate in three to four stages. At the present time my cases are operated from above down as the convalescent period is less stormy, but on the other hand, the observers operating from below upward feel that the opportunity of aspirating infected material is greatly minimized.

#### EXTRAPLEURAL PNEUMOLYSIS

This is a separation of the lung and the visceral and parietal pleura from the chest wall. The space created by the separation may be filled by fat, paraffine, gauze, or not filled at all. Pneumolysis may be used as an independent procedure or concomitantly with thoracoplasty. Because it is only practical to strip the pleura to a limited extent, one can easily see that its usage must be limited to lesions of a circumscribed area, and preferably at the apex. Undoubtedly the mobility of the lung toward the base is the inhibiting factor to a successful pack in this region. This is particularly applicable in cases with a small localized excavation, in which the original involvement has not been too extensive in this lung. Lilienthal favors a fat pack, but it has some disadvantages in that occasionally it will either liquify or atrophy. When successful it forms connective tissue. To pack with gauze means an open wound for five or six months and changing the gauze is very painful. Paraffine is probably the best.

The disadvantage of this operation is (a) the danger of tearing into infected pleura; (b) the pack may become infected and extruded through the wound, or break into the pulmonary cavity by pressure necrosis; (c) pressure upon the mediastinum causing cardiac distress.

#### OPEN INTRAPLEURAL PNEUMOLYSIS

Is performed when adhesions at times prevent compression with pneumothorax. This is done by the ordinary thoracotomy operation and adhesions severed by the finger or knife. If the adhesions are in the upper portion of the chest it is usually advisable to remove a portion of the rib and then complete the severance.

#### CLOSED INTRAPLEURAL PNEUMOLYSIS

Jacobaeus has devised an instrument with which adhesions are severed without the need of open thoracotomy. He introduces into the chest two cannulae under local anesthesia. In one he places the thoracoscope and in the other the galvanocautery with which he burns through the adhesion. When the operation is successful it places the patient in a position to receive a total artificial pneumothorax. Unverricht had modified the original instrument as devised by Jacobaeus and this procedure is usually spoken of as the Jacobaeus-Unverricht operation. It is not devoid of dangers and disadvantages and it should be borne in mind that string-like adhesions not too thick are the ones that should be utilized. The main disadvantage lies in (1) hemorrhage at the time of operation; (2) empyema following in the wake. Nevertheless it has clinical application in selected cases, even though it is fraught with danger.

In reviewing the statistics on pneumothorax we have 20 per cent of cases with no free pleural space. In other words, these cannot take gas. That leaves 80 per cent in which you will have a partial or complete pneumothorax; 40 per cent of these cases will fall into the class of partial compression. It is this group that you can help materially.

### The Differential Diagnosis of Cathartic Colitis

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Cathartic colitis is a condition in which inflammatory change has occurred in the alimentary tract because of the use of cathartics. The large intestine is the chief seat of this process, and the inflammation may vary from a mild catarrhal condition to one of hemorrhage, suppuration or even ulceration. It is usually understood when such a diagnosis is made that the taking of cathartics is the essential factor, and that when the habit is broken and the inflammation permitted to subside the patient will have been cured of his specific condition.

The diagnosis is not difficult, and the treatment is easily carried out with very gratifying results. The patient tells of taking cathartics of gradually increasing potency over a considerable period of time. At first, bowel movements make him feel better, but eventually the colicky pain and epigastric aching become more pronounced. Examination of the stool reveals watery material with gas and much nondigested food, or lumps with adherent mucus. Treatment consists of stopping all cathartics, feeding for several days with materials that have little residue and little chemical irritation, softening the colonic feces with oil enemas, and finally, after the inflammation has subsided and formed stools free of excess mucus are passed, getting the patient on a diet suited to himself with the proper bulk and chemical irritants.

*But in arriving at a diagnosis of cathartic colitis care should be taken that something of more serious nature is not overlooked.* Like pernicious anemia, the diagnosis may be too readily made and the treatment too easily undertaken<sup>1</sup>. The following cases are reported as characteristic examples, and illustrate some of the difficulties in the differential diagnosis.

Case 1—While traveling in Europe, a man 30 years old developed abdominal distress for which he began taking cathartics. The distress was cramplike, intermittent, occasionally at the right



lower abdominal quadrant but usually at the epigastrium. It awakened him in the morning and he passed large quantities of gas by rectum which at first gave him partial relief. Defecation also gave him partial relief and the stools were either mushy and gaseous or hard with coatings of mucus or fresh blood. The distress was often made worse by taking food or by a cold drink, and it was usually worse in the winter.

It was apparent that the patient suffered with colitis; but on diet his improvement was only temporary. One day his distress became more severe than usual. A portion of the mushy stool was examined microscopically and found teeming with flagellates which answered to the description of *trichomonas*. The patient was observed for several weeks and these organisms consistently found in large numbers. He was put upon specific treatment and in the course of a

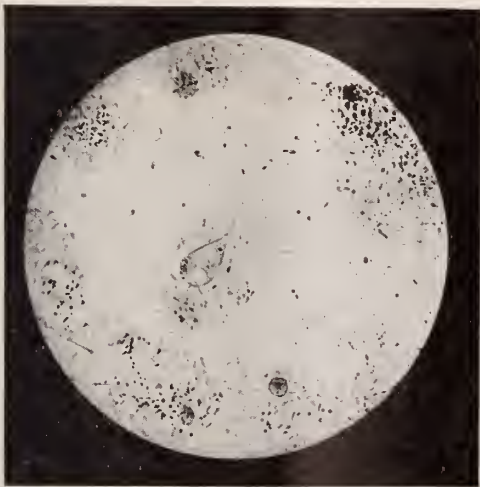


Fig. 1. *Trichomonas*. Drawing made from fresh nonstained specimen under oil immersion lens.

month his abdominal distress had entirely disappeared and the stools were free of parasites. (Fig. 1.)

Case 2—A German woman 65 years old was referred to the gastro-intestinal clinic with a diagnosis of cathartic colitis based on her history of intermittent abdominal distension, belching, the passage of flatus, and the taking of laxatives. She was well developed, weighed 170 pounds, had a normal temperature, pulse and respiratory rate, and her blood pressure was 150 systolic and 60 diastolic.

Cardiac sounds and borders were apparently all right. There were neither casts nor albumin in her urine, and her blood urea, uric acid, creatinin and sugar were within the usual limits. The Wassermann test was negative. White and red blood cell counts were not suggestive of disease. No retinal vascular changes were observed with the ophthalmoscope.

However, a detailed history from this patient told of dizziness, dyspnoea and pain at the left shoulder on exertion, and when she worked her abdominal distress was increased. The electrocardiogram gave evidence of advanced myocardial degeneration which was responsible for her gastro-intestinal symptoms. (Fig. 2.)

Case 3—This young man was an usher at the railway station. For about a year, he suffered with abdominal distress that grew progressively worse and eventually caused him to quit work in spite of the fact that a wife and six children were dependent upon him. The distress was at first intermittent but finally became remittent. It was a characteristic "bowel discomfort," aching, occasionally cramp-like, shifting along the course of the colon, and partially relieved by defecation.

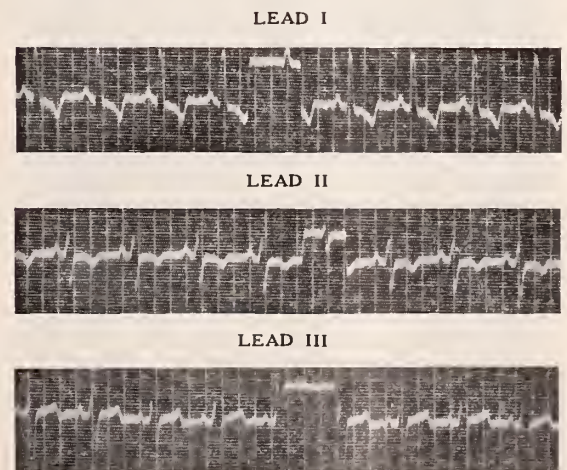


Fig. 2. Electrocardiograph. Note high QRS in lead 1 and low in lead 3; also notched R wave at peak and lengthened QRS interval; also inverted T wave in leads 1 and 2.

Since the trouble began, the patient had formed the habit of taking a daily cathartic because of the relief afforded by a bowel movement. But when he neglected his cathartics for several days

at a time, his bowels moved three or four time daily and the stools were always watery or mushy. Blood was never seen nor found in the stools.

Appendectomy was done for "chronic appendicitis." Subsequent diagnoses by various doctors were "peptic ulcer," "gall stones," "neurasthenia," and finally "cathartic colitis." These diagnoses suggest the dearth of symptoms and physical findings.

The patient's blood repeatedly showed three per cent eosinophilia, and on occasions he had a temperature of 99 degrees.

He was caused to pass a stool in the office, and the fresh specimen was immediately examined under the microscope. In the mucus were large numbers of actively motile amoeba.

The subsequent course of the patient on specific medication, together with studies conducted privately and at the University of Kansas, substantiated the

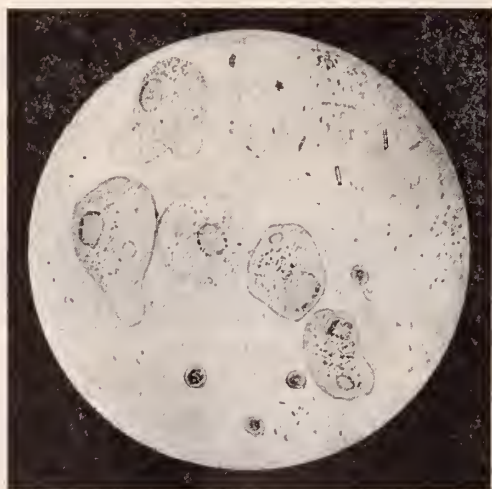


Fig. 3. *Amoeba histolytica*. Drawing made from fresh unstained specimen under the oil immersion lens.

diagnosis of histolytic amoebic infection of the colon<sup>2</sup>. (Fig. 3.)

This patient had never been outside of the two states of Kansas and Missouri. He had been in the habit of eating fruit given to him by travelers at the railway station, and may possibly have picked up his infection in this manner.

Case 4—A 34 year old negro man, a cook, suffered with abdominal distress for six months. He had been in the habit

of taking a cathartic at least once a week on general principle, all of his life. His abdominal distress first began suddenly after indiscriminate eating, and at once became remittent in character. During the following six months, he took physics of increasing potency, and noticed that diarrhoea alternated with constipation. Finally his distress resolved into generalized abdominal aching with occasional colicky pains along the course of the colon.

The diagnosis was "cathartic colitis" and the patient was treated with a corrected diet, oil enemas, and a combination of belladonna and hyoscyamus.

There was very little improvement. The patient had an afternoon rise of temperature as high as 99.2 degrees, and a leukocyte count ranging from 2,200 to 3,350 of which 44 per cent were small lymphocytes. His abdomen was tensely distended and free of peristaltic sounds on each examination.

At exploratory operation tuberculosis of the intestine at the ileocaecal juncture was found. (Fig. 4.)

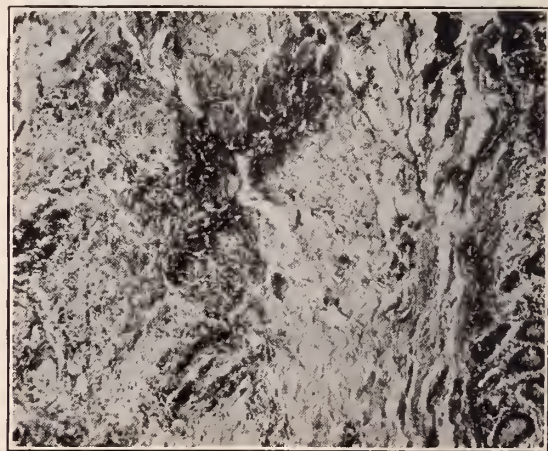


Fig. 4. Tuberculosis of the Caecum

Case 5—A middle-aged negro man had taken cathartics for a year. His abdominal distress seemed to develop insidiously and was colicky in nature, along the course of the colon. Partial relief was obtained by defecation, and it was apparently for this reason that he had fallen into the cathartic habit.

The fluoroscope revealed a "spastic bowel" and the stools were mushy and gaseous, with a little mucus. The urin-



alysis, blood count and analysis of the stomach content failed to reveal anything of note. A diagnosis of "cathartic colitis" was made.

On a diet calculated to meet the requirements of an "irritated bowel," the patient showed partial improvement. He was referred to the gastrointestinal clinic because he persisted in taking cathartics. At this time, a blood test revealed a four plus Wassermann and positive Kahn.

On specific medication, the patient's distress vanished and he voluntarily stopped taking cathartics.

Case 6—A woman 48 years old, since the age of twelve had recurrent attacks of abdominal distress. She had her tonsils removed, her appendix taken out, her gall bladder drained and subsequently removed, her perineum repaired, and all of her teeth extracted without getting rid of her abdominal distress. Her ultimate diagnosis was "cathartic colitis" because she persisted in taking laxatives regularly.

A detailed history presented these features which suggest the diagnosis of "migraine equivalent"—Her abdominal distress occurred intermittently, and between times she was entirely free of discomfort. The attacks were worse at puberty and as she neared the menopause. She knew of an approaching attack because she felt unusually well the preceding day. Next in sequence, she invariably experienced a peculiar odor which she described as similar to "crushed herbs." The abdominal distress then developed, seeming to spread upward to the occiput, and she usually became nauseated and vomited. Within a few hours she became drowsy and after a sound sleep she awakened with her abdominal distress and head pains entirely gone.

The patient's brother had epilepsy and a sister and the patient's son suffered with typical "migraine."

Case 7—A 35 year old Italian woman had four children, the youngest 19 months old. Her abdominal distress developed insidiously in the course of six months, with colicky pains along the course of the colon, rumbling and gurg-

ling, and partial relief by defecation. She developed the cathartic habit.

During a two weeks stay in the hospital, the diagnosis of "cathartic colitis" was made. On diet she improved and her stools took on a better character. However, she did not gain weight as was expected, and occasionally she had a temperature of 99.5 degrees. A movable right kidney was at the pelvic brim, but it seemed inadvisable to tell the patient about this condition at the time.

At home subsequently, she went from 120 pounds to 110 pounds and at one time had a fever of 100.2 degrees. Repeated urinalyses failed to show anything abnormal, but the patient admitted that there were nights when she had to void as often as ten times. Ordinarily she passed the night without nycturia. Her greatest discomfort was at the upper right abdominal quadrant.

Cystoscopic examination revealed two narrowed parts of the right ureter and a



Fig. 5. Pyelogram indicating ureteral kinks and hydronephrosis.

right renal pelvic capacity of more than 20 cc. The diagnosis was "right ure-

teral strictures with hydroureter and hydronephrosis."<sup>3</sup> (Fig. 5.) After dilation, the patient's discomfort disappeared, and in the course of three weeks she gained 12 pounds.

#### COMMENT

The diagnosis of "cathartic colitis" and terms which by some are held synonymous such as "chronic appendicitis," "mucous colitis," "nervous indigestion," "irritable bowel," "neurasthenia," and "visceroptosis" should be undertaken with caution, and only after exacting study has ruled out other more serious basic lesions.

That such an entity as 'cathartic colitis' exists cannot be denied, but the typical history in such a case usually indicates that the patient began taking cathartics not because of definite symptoms but because of some misinformation as to the value of a daily physic, or under environmental conditions that were temporarily costive. Often the cathartic habitue has taken pills as far back as he can remember.

These patients are usually slaves to the habit, and will not forego cathartics for a reasonably long trial when commanded to do so by the physician.

They belong in the hospital where an order against the use of cathartics can be carried out. They also belong there for adequate study in regard to obscure underlying lesions.

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#### Public Health—Past, Present and Future

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The most ancient writings dealing with the subject of public health are found in the Old Testament, and the author—that remarkable Hebrew genius and leader—Moses.

New discoveries in the causation of disease have shown scientifically that the detailed and universal observance today of the principles underlying certain

of the rules laid down for the Children of Israel, approximately 1,500 years before Christ, will promote health, banish the infectious diseases, increase longevity and release in innumerable ways the innate possibilities of the human race.

Some of these rules, quite true, are most crude in the application of the principles they exemplify, and others give reasons for their observance more religious than scientific, but the fact remains that whatever their origin, obedience to them will actually bring physical salvation to man. Under them, man is shown how to live healthily and happily.

Moses, you will remember, was the son of parents belonging to a nomadic desert tribe, that though enslaved for generations, had kept itself free in the main from the taint of blood inherent in martial union with the Egyptians. Moses, adopted by the daughter of the Emperor, was trained in all the wisdom of Egypt—the most cultured nation on earth. As a member of the royal household and son-in-law to one of the chief priests in the temple of the Sun God, Moses had access to the greatest store of learning existent, and to all the secret knowledge and mysteries zealously guarded by the priests—the only medical men of that time. When the responsibilities of leading and guiding the destinies of an undisciplined horde of freedmen and their families fell upon Moses, he utilized to the full every talent he possessed and drew exhaustively upon the store of wisdom and knowledge he had accumulated.

Moses' problem was to build a nation, and consequently the first important edict promulgated by him was a drastic racial integrity law designed to insure a healthy, vigorous race. He discouraged and forbade the marriage of those who might bring into the world offspring with physical defects.

The correction of physical defects and the cure of disease, quite true, has occupied the major portion of the physician's time and thought, but much has been learned in the science of eugenics since Moses first outlined its principles. There is, however, much the family physician



may do in instructing his patients concerning the laws underlying heredity and in the fundamental necessity of untainted blood as a prerequisite to good health and bodily vigor in the individual and his offspring.

To Moses is also due the first record of the principle of environmental sanitation, the scientific basis of which has been discovered only in comparatively recent years:

"Thou shalt have a place without the camp whither thou shalt go forth abroad, and thou shalt have a paddle among thy weapons, and it shall be when thou wilt ease thyself abroad, thou shalt dig therewith and shalt turn back and cover that which cometh from thee."

The sanitary disposal of human wastes, as is well known, is a most important item in any program for safeguarding human lives, for typhoid fever, diarrhea and enteritis and other intestinal diseases may be spread by neglect of this Mosaic precept. No physician can justify his neglect in insisting at every home where he is called that a sanitary method of sewage disposal be properly installed.

Moses, although not a scientifically trained medical man, recognized that contagious diseases could be transmitted from the infected to the non-immunes for in Leviticus 13, there are definite references to the diagnosis of leprosy and the measures to be applied in its control.

In the Mosaic laws were named specifically the animals which could be factors in the spread of bubonic plague or tularemia, such as the weasel, ferret, mole, the coney (a kind of ground squirrel), and the hare. It was forbidden to even touch these animals when they were dead, under penalty of a one day quarantine. Mosaic regulations against eating pork will occur to you as having a distinct public health significance. Fuel was very scarce in the desert and in Palestine, and raw and half cooked food was probably the rule. The taboo against the pig not only insured against trichinosis, but kept the camp free from that abominable, odoriferous fly-breeding nuisance—the hog pen—which so many of our towns and villages tolerate today.

Turn forward the pages of time a thousand years to the era of Hippocrates, whom the modern profession of medicine is glad to own as its father and founder. To this wonderfully honest physician, research worker, author and gentleman, medicine owes its dignity and its standing before the world today. There are a few observations and principles laid down by him which buttress the more ancient items previously quoted.

In one of his famous "Aphorisms" Hippocrates makes the following statement:

"The physician must not only be prepared to do what is right himself, but also to make (1) the patient, (2) the attendants and (3) the environment co-operate."

To quarantine a diphtheria case and not culture the contacts, or to placard a typhoid fever case and not investigate the source; screen the sick room against flies or provide for the sanitary disposal of the excreta, is, I believe you will agree, inadequate practice, which the principles of neither Moses nor Hippocrates would countenance.

In the famous treatise on "Air, Water and Places," Hippocrates definitely established himself as a teacher and practitioner of preventive medicine when he stated the physician "must proceed to investigate, and he cannot miss knowing the diseases peculiar to his locality. In particular he can tell as the season advances what epidemic diseases are to be expected, and being acquainted with each particular he must succeed in the preservation of health and in the practice of his art."

Turn forward the pages of history several centuries to present day medicine. We believe you will agree more progress has been achieved in medical education in the past thirty-five years than during all preceding time, and the medical student of today enjoys greater advantages than ever before in the history of medical science. This distinct advantage as we see it places the practitioner of the healing art under obligation to render better and more skillful service to mankind. As a result, we, as practitioners of medicine, are immediately confronted

with problems of medical service and public health, the solution of which will be of incalculable benefit in the promotion of health, happiness and efficiency of the present and future generations. Yet, it is only within recent years that serious consideration has been given to instructing medical students in the science and art of "prevention." The average physician, until within recent years, had little or no contact with agencies engaged in public health work and this, we believe, may account for the occasional misunderstanding that may occur between the practicing physician and the health department.

In the early days of public health, the work of the health officer was largely confined to the placarding of homes for contagious diseases and the use of a disagreeable gas to theoretically kill the germs remaining after recovery of the patient or the case had terminated fatally. No effort was made to trace the source of infection, because little or nothing was known of the manner of transmission of disease germs. Likewise, notification was not made to contacts that they make use of preventive measures against contracting the infection, for with the exception of smallpox vaccine, the preventives such as that for diphtheria and typhoid fever are of comparatively recent development.

In our experience the average health officer does not endeavor to enlarge greatly the number of duties he may perform unless he is employed on a full time basis. Yet the powers and responsibilities conferred by law upon the health officer are so far-reaching that these duties cannot be avoided with self respect and without a knowledge that he is violating his oath of office.

Among more recent activities in which the health officer must engage are: public health education; the control of cancer, heart and venereal diseases; the furtherance of immunization programs; physical examination of school children; periodic health examinations; the holding of clinics and measures for the reduction of infant and maternal mortality.

In order to have a clearer perspective and broader vision, it may be well to re-

count briefly some accomplishments in preventive medicine as well as some of the outstanding needs of the public. May we first direct your attention to infant and maternal hygiene?

It seems quite clear there is no problem today which merits the consideration of the medical profession more than rendering adequate protection to the health of mothers and infants and the reduction of infant and maternal mortality.

#### INFANT MORTALITY

In 1928, with returns available from the District of Columbia and thirty-eight of the forty states in the registration area, there were 133,719 deaths of infants and the infant mortality rate was 67.9. Of this enormous total of deaths, only 1,996 were reported in Kansas and the infant mortality rate was 58.1, or 9.8 less than for the registration area, which represented a saving of 314 infant lives in the state of Kansas.

Infant mortality has shown an approximate twenty-five per cent decrease in the past fifteen years in the state. In comparison with other states in the registration area, in 1928, only five states had a lower infant mortality rate than Kansas.

#### MATERNAL MORTALITY

In 1928, in Kansas, 244 women died from causes directly connected with childbirth, and the maternal death rate was 7.2. In only five years 1926, 1921, 1920 and 1918 has a higher rate been recorded. The highest rate, 8.1, was recorded in 1921, and the lowest, 5.0, in 1925. Statistically, these 244 deaths are not startling as compared with those for the principal causes of death. Yet it must be considered here we are not dealing with a disease, but with a definite physiological process. The deaths annually of more than 200 women in this state from causes directly connected with childbirth and the chronic invalidism of many times that number constitute a much more grave problem than an equal number of deaths among the general population, or among infants and young children.

It is a rather significant fact there has been no material reduction in the maternal death rate. In all probability at



least seventy-five per cent of these deaths could be prevented. Such conditions as these are not only a reflection upon the laity but a challenge to the organized medical profession for intelligent and constructive service to motherhood. In a study of maternal deaths it is our experience that in the great majority of fatal maternal cases, the physician is called only in time for the delivery.

#### HEALTH OF CHILDREN

During recent years, nation-wide interest has been stimulated in child health. As a result of studies that have been made in the full time county health units in Kansas, it is shown there is an appalling need for improvement in the health of children of pre-school and school age.

In 1925-26, 32,548 children of school age were examined by full time health officers in Kansas. The principal findings were as follows:

	Number	Per Cent
Total examined .....	32,548	-----
No. with defects .....	26,973	83.0
No. underweight .....	8,042	25.0
No. with defective vision.....	4,957	15.0
No. with defective teeth .....	16,634	51.0
No. with enlarged or diseased tonsils .....	13,420	41.0

There are in the state of Kansas some 420,000 children between the ages of five and fifteen years. Apply the findings of the physical examinations in 1925-26, and we have the following:

	Number
Total, 5-14 years .....	420,000
No. with defects .....	348,000
No. underweight .....	105,000
No. with defective vision .....	63,000
No. with defective teeth .....	214,000
No. with enlarged or diseased tonsils.....	172,000

In addition to those showing physical defects, there must be added the great number of children who suffer annually from four of the so-called children's diseases, namely, measles, whooping cough, scarlet fever and diphtheria with the attendant sequelae. Moreover, many of these cases receive no medical attention whatsoever, or the medical service is delayed or inadequate.

Because inadequate medical service has been provided in various communities, many of the children are not only injured permanently in health, but become grade "repeaters" in school, there-

by creating an additional economic waste to the community. It must be considered that the great majority of children who are ten per cent or more underweight must be regarded as potential cases of tuberculosis. Much of the malnutrition among children is due directly to physical defects, infections and bad environment. These facts show there is a great drain upon child life for which improper provision has been made for medical supervision and which offers an opportunity for increased medical service.

It is possible to secure improvement in child health as the following report of physical examinations of school children for 1928-29, in counties operating full time county health departments will show:

	Number	Per Cent
Total examined .....	29,058	-----
No. showing defects .....	18,130	62.3
No. underweight .....	4,102	14.1
No. with defective vision .....	2,521	8.6
No. with defective teeth .....	5,221	17.9
No. with enlarged or diseased tonsils .....	5,360	18.4

#### INFECTIOUS VS. DEGENERATIVE DISEASES

During the past fifteen years, there has been an increase of approximately nine per cent in the population of the state. Increases and decreases in deaths from certain diseases are shown in the following table:

	Increase	Decrease
Cerebral hemorrhage .....	123 %	-----
Heart disease .....	93 %	-----
Cancer .....	74 %	-----
Bright's disease .....	48 %	-----
Diphtheria .....	-----	64 %
Typhoid .....	-----	86 %

It will be noted that the marked increases, with the exception of cancer, have been in the diseases which are common to old age. The decreases have occurred in those diseases in which medical science has discovered the exciting cause and has provided specific preventive measures.

#### TYPHOID FEVER

Remarkable progress has been made in the reduction of typhoid fever prevalence through the control of cases and carriers, improvement in water and milk supplies, better sanitation, the use of typhoid fever vaccine, et cetera. Yet, many communities neglect their water supplies, their sanitation, and many individuals

are indiscriminate in the use of water supplies, the purity of which cannot be vouched for. Additional precautions in these matters relating to the protection of the public health would result in further marked reductions in future years in the number of cases of typhoid fever and resultant deaths.

#### DIPHTHERIA

The possibility of diphtheria control has developed through successive stages beginning with the discovery of the specific germ in 1884, the development of antitoxin in 1890 and finally the discovery of toxin antitoxin. Diphtheria is a disease essentially of the school child for approximately sixty per cent of cases occur in children under ten years of age.

In the past twenty years a reduction of more than twelve per 100,000 population has been made in the deaths from diphtheria. The marked decreases, however, have occurred in the past six years, corresponding to the use of toxin antitoxin as a preventive.

Through the efforts of county medical societies, city and county boards of health, parent-teachers associations in co-operation with the state board of health some 200,000 Kansas children have been protected against diphtheria in the past six years. To this number must be added approximately 100,000 children immunized by physicians in private practice, making a grand total of approximately 300,000.

Occasionally, criticism may be directed at the health department for sponsoring immunization programs. Yet, I would remind you the health department is obligated by law to prevent communicable diseases in a community and it is indeed within the province of the health officer to employ the specific remedies which are made available for disease control by scientific research. It is, therefore, not a question of whether the health officer has the right to use such preventive measures, but a matter of how to accomplish the largest results in the use of specific preventive agents. No wise health officer will project a campaign for immunizing children against diphtheria, or for vaccinating against smallpox or typhoid fever without securing,

if possible, the participation of the practicing physician.

Notwithstanding the legal obligation of the health officer to protect against infectious diseases with specific preventives, this is also a proper function of the private physician and this responsibility he should assume to the fullest extent. If every physician would educate his clientele to bring children to him for vaccination against smallpox at the age of three months by use of the multiple pressure method; for immunization against diphtheria at the age of six months and against typhoid fever at the age of two years, a marked forward step would be made in controlling these diseases.

#### DEGENERATIVE DISEASES

Quite true the great majority of deaths from degenerative diseases occur past the age of fifty years. Many of these are premature deaths and could be postponed if proper precautions were taken when the individual knew he had some condition which was not normal.

#### PERIODIC HEALTH EXAMINATIONS

We realize that when a person calls at a physician's office, it is usually because he feels the need of medical attention, or is of the opinion some disease has developed. It is gratifying, however, that in recent years there has been an increased interest on the part of the thoughtful laity in having physical examinations made, in order to obtain a correct estimate of their physical condition.

This program has been stimulated by the American Medical Association, in the initiation of the program of the periodic health examination of people forty years of age and over. These examinations are designed to detect early evidence of functional disturbances before there is discomfort, inconvenience, interference, or anxiety has led the person to seek medical advice for the treatment of an established disease. The methods employed should be those used in the diagnosis of disease. Such an examination should be made with discriminating care and accuracy if the public is to be impressed and the desired results obtained. Frequently, hygienic measures must be



advised rather than curative agents. However, the attainment of results will depend largely on a "follow-up" procedure by the physician.

#### STATE MEDICINE

Frequently in an effort to establish a more wholesome relation between the health officer, medical profession and the laity for mutual benefit, confusion may develop pertaining to so-called "state medicine." In reality, there is no accepted definition of "state medicine," but in general it is the subsidizing of the medical profession by the government, primarily, for treatment and cure, and has a different objective from that of the prevention of disease through public health agencies.

#### CONCLUSIONS

In my opinion it is most important to have the medical profession participate actively and manifest leadership in public health programs. There is no doubt but that the greatest medical need of the laity at the present time is a better appreciation of the possibilities and benefits to be derived from scientific medicine, for it is probable that not more than sixty per cent of the people have proper appreciation of the value of medical science. Because of the indifference of the public and, as a logical sequence the indifferent attitude of the laity, is there any wonder there are so many cults and isms that offer their wares to the public? This condition may be changed only by a persistent, systematic and intelligent attitude on the part of the organized profession in the education of the people relative to personal and community hygiene, the principles involved in the treatment of disease, the benefits derived from medical discovery, and the intrinsic value of scientific medicine.

It is evident, therefore, that the profession and the public have a large mutual interest which unites them in a common task, namely—to supply the increased demand for a larger medical service and also one that affords a closer correlation between medical practice and community public health activities.

### TUBERCULOSIS ABSTRACTS



SINCE Koch's discovery of tuberculin some 40 years ago, the search for a satisfactory specific against the tubercle bacillus has been ceaseless. Failure to find it is not surprising. Protection against tubercle bacilli depends ultimately on the power of the body to encapsulate them. This power, or "sensitization," is acquired only as the result of harboring the bacilli in the tissues. How to "draw the teeth" of the tubercle bacilli so that it will stimulate the beneficent physiological reactions resulting in tubercle formation and yet not destroy tissue has long challenged the research worker. Calmette has produced BCG, which is essentially a vaccine consisting of an attenuated strain of living bovine tubercle bacilli, which he claims are harmless and capable of engendering defense reactions of the cells. In America, opinion as to Calmette's claims has not yet crystallized and considerable skepticism is voiced.

#### BACILLUS CALMETTE-GUERIN

Professor A. Calmette of Pasteur Institute isolated a certain strain of bovine tubercle bacilli in 1908 and, during a period of 13 years, attenuated them by 230 passages on a medium of potato glycerin and bile. After experimenting with cattle, he applied the vaccine to babies, and he and other workers have by this time vaccinated more than 200,000 infants. Within ten days after birth, he gives by mouth a recently prepared microbic emulsion (which contains *living* bacilli) in three doses at intervals of 48 hours. This is easily absorbed by the intestinal mucosa. The bacilli are carried by protoplasmic cells which have phagocytic powers into the lymphatic system, the lymph glands, the spleen and the bone marrow. The vaccines are not digested but behave as harmless parasites and in a short time elaborate the defensive substances.

Calmette has gathered an imposing array of statistics from health departments, clinics, and physicians. His interpretations of these figures indicate that

vaccinated infants of tuberculous parents are greatly more resistant to tuberculosis than the unvaccinated, particularly if vaccination is carried out during

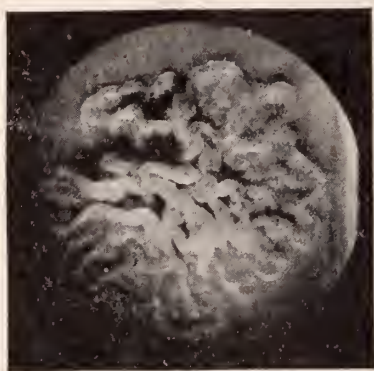


Figure 1—"R" colony of BCG, not virulent for guinea pigs. (Courtesy S. A. Petroff.)

the first ten days of life. Furthermore, he interprets his statistics to mean that the general infant mortality is decidedly less among vaccinated than among unvaccinated children. For example, in one group of 3,808 vaccinated children in tuberculous surroundings, 3.1 per cent died (from all causes) during the first year of life. The corresponding death

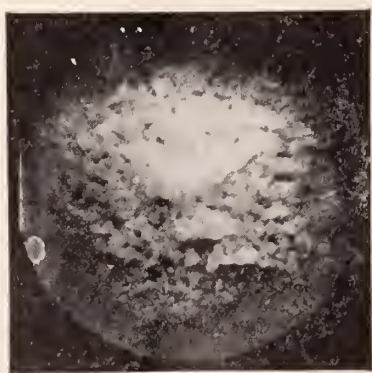


Figure 2—"S" colony of BCG isolated by Petroff, which proved virulent for guinea pigs. (Courtesy S. A. Petroff.)

rate for France of non-vaccinated children was 8.5 per cent, or more than twice as high. It is confidently claimed that the injection of BCG causes no unfavorable reactions, though rarely a slight rise in temperature is observed.

What is the duration of immunity acquired by this method? Calmette states it is longer than was at first supposed

and believes that the immunity is maintained and reinforced by the subsequent infections which a child encounters in a tuberculous environment. Apes vaccinated in 1923 were still refractory to the infection through cohabitation with artificially infected apes in 1927.—The Preventive Vaccination of New-Born Infants against Tuberculosis by Means of the BCG, A. Calmette, Bull. de l'Union Internationale contre la Tuber., Vol. V, No. 1, Jan. 1928.

#### CRITICISMS OF BCG

Petroff, of the Trudeau Sanatorium, challenges Calmette's conclusions. He points out, among other things, that Calmette made no clinical and x-ray studies of the vaccinated infants and that the mortality rate is not a suitable criterion to determine the protective value of the vaccine. He states that Calmette selected his cases to some extent and that bad risks were not vaccinated. He quotes Greenwood and Rosenfeld as having analyzed Calmette's statistics and found them faulty on several counts.

More specifically, Petroff questions the claim that BCG is without danger. He has, during the past four years, studies the biological characteristics of four separate cultures of BCG. "Every one of the cultures occasionally produced progressive tuberculosis in guinea pigs and the lesions could be transferred to healthy animals." By cultivating BCG on fluid media, he succeeded in dissociating two distinct types of colonies; one waxy, with small wrinkles, with clear-cut, rounded and raised outlines, the other less common, slightly smaller, with irregular wrinkles. He designated these cultures as "R" and "S" respectively. The "R" colony produced tubercles when injected into guinea pigs but these tended to heal. The "S" colony produced progressive tuberculosis. Petroff claims that BCG is not "fixed" and that a virulent strain can be dissociated from it in the laboratory. Recalling that mutability is one of the characteristics of bacteria, he warns that BCG, harmless when injected, may in time regain virulence.

In conclusion, he says: "We have now reached the cross-road and must decide



as to what course we must pursue in our campaign against tuberculosis. Shall we tuberculize the whole world by adopting Calmette's method of vaccination with living microorganisms . . . or shall we continue those preventive methods adopted some years ago in this country and Canada, and so successfully employed in reducing the mortality from tuberculosis and preventing infection in infants."—*A New Analysis of the Value and Safety of Protective Immunization with BCG*, S. A. Petroff, *Amer. Rev. of Tuber.*, Vol. XX, No. 3, Sept. 1929.

#### BCG IN NEW YORK CITY

Kereszturi reported experiences with the use of BCG on 183 babies in New York City. She concludes that infants of tuberculous mothers promptly vaccinated by mouth do not acquire tuberculosis as readily as the unvaccinated. She admits that the total number is small and not sufficient on which to base substantial conclusions but is of the opinion that BCG vaccination is relatively simple and harmless, that it gives some immunity, and that the degree and duration of immunity cannot be determined as yet.—*Oral Vaccination with BCG on Human Beings in New York City*, Camille Kereszturi, *Amer. Rev. of Tuber.*, Vol. XX, No. 3, Sept. 1929.

#### A CLINICIAN'S VIEWPOINT

Baldwin concedes that BCG is not without its danger but questions if that danger is greater than the risk a child runs in acquiring tuberculous infection in the natural manner. He inclines to the view that, while BCG has some virtue, it is at present an unnecessary instrument in the general battle against tuberculosis in this country. Assuming that tuberculous infection is gradually declining among children in this country, perhaps in the same ratio as is the death rate, he points out that there may soon be a generation of people who have acquired no immunity against tuberculosis, at which time some such artificial protection as is afforded by BCG may prove to be a very good substitute for the naturally acquired immunity on which we depend today. He favors more investigation before universal application of BCG is made in the United States.

To the frequently asked question as to whether it is the vaccination or the separation of the child from its mother that protects the infant, Calmette's answer is that the separation is but a brief one and not sufficient of itself to protect the child. But, said Dr. Baldwin, the mere fact that such separation is effected implies that the mother has been apprised of the danger of exposing the infant to her tuberculosis and has been given a detailed explanation as to why the separation is necessary. Consequently, when the child is returned to its mother after a period of a few weeks, the mother will doubtless continue to exercise those precautions which have been impressed upon her; whereas, the mothers whose babies have not been separated from them are not so likely to be aware of the danger of close contact.—*Discussion, New England Conference on Tuberculosis*, Hartford, Conn., April 26, 1929.

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#### Hematuria as Symptom of Pregnancy Hydronephrosis

C. N. Swanson, Detroit (J.A.M.A., Nov. 16, 1929), has had the opportunity to observe and treat a patient with a marked hematuria which persisted during the last four months of pregnancy and the first two weeks of the puerperium, in whom no pathologic change other than hydronephrosis could be detected after several careful urologic examinations. It would seem that serious disease of the genitourinary tract has been eliminated as a possible explanation for the hematuria in this patient, and that a blood dyscrasia has been ruled out equally well. Whatever hypothesis may be offered cannot be substantiated, but one is led to believe that the blood vessels (capillaries) in the kidney pelvis must have undergone some temporary alteration (passive congestion), which made them permeable to blood cells over a considerable period of time, while the definite time relationship in gestation suggests that the pregnancy was actually a causal factor. The occurrence of hematuria with hydronephrosis, especially during pregnancy, in both mother and daughter suggests that this peculiarity may have been directly transmitted.

# THE JOURNAL

of the

## Kansas Medical Society

W. E. McVEY, M. D. - - Editor

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### PROBLEMS

In the editorial comments appearing in these columns at various times it has been assumed that there is a serious economic problem with which the medical profession is intimately concerned, and which it must itself solve to its own especial benefit and its own satisfaction, or submit to some less satisfactory solution by others who may be directly or indirectly concerned.

There is no economic problem with which the medical profession is greatly concerned, or if there is one, it will not be solved by the medical profession itself. There are, however, numerous economic problems of more or less serious import to the particular groups involved. Perhaps it would be more accurate to say that what was formerly one great problem has now resolved itself into numerous problems, geographically and occupationally distributed among the various units of the profession. The medical profession of California has its problems, or phases of the great problem in which it is most concerned, and which it will attempt to solve for itself. The profes-

sional units in the eastern states have their problems, differing from each other and from those of other sections of the country, which they also will attempt to solve in their own way and for themselves. The problems, or phases of the great problem, which most concern the profession of North Carolina and of Texas differ materially from those of greater interest to Michigan and Wisconsin. The problems which most intimately concern the general practitioners awaken no interest whatever in the surgeons and other specialist groups. There are no problems or no phases of the great problem in which those engaged in industrial medicine are at all concerned, unless it be to eliminate competition for the jobs they hold and to increase the salaries they now receive.

The only economic problem recognized by the medical profession in Kansas is ages old—how to eliminate the cults and how to make deadbeats pay. It is not much excited over the prospect of state medicine or sickness insurance. With no large cities and only a few small ones in the state, it is not greatly interested in the inroads that may be made by free clinics and the practice of medicine by lay organizations. If there are any other economic problems about which the profession in Kansas is concerned they are of local interest and are being solved by the various county units, each in its own way.

This does not mean that those men who constitute the medical profession are narrow minded or selfish, but it does mean that only a small per cent of them believe that the practice of medicine should be or can be put upon a commercial basis. If one ever had an ambition to gain wealth in the practice of medicine it is soon supplanted by his increasing ambition to be renowned for his ability to relieve pain and suffering. It is an



exceptional physician who refuses his services to one because he is unable to pay. It is an exceptional surgeon who refuses to operate on a patient who cannot remunerate him.

Under conditions such as these there is little prospect that the medical profession will initiate any methods for financing its operations that differ from those now pursued. The practice of medicine will never be commercialized by the profession itself although it seems probable that other interests outside of the profession will bring it about.

#### SOME QUESTIONS

From a short article on the subject of heart disease, recently sent to the newspapers by the United States Public Health Service, the following few statements have been extracted:

"In 1928 there were 228 deaths per 100,000 from heart disease."

"From 1917 to 1925, with an increase in population of one-third, the deaths from heart disease doubled and the deaths caused by heart disease as a contributing factor increased 81 per cent."

"Practically 75 per cent of all cases of heart disease develop in children under 10 years of age, 12 per cent in persons over 40."

"The chief factors in the development of heart disease are rheumatism and the conditions associated with this disease. The teeth and tonsils are the favored portals of entry for the germ of this disease."

"It has been shown that the incidence of certain infections and rheumatic diseases, in association with damaged hearts, is very high; scarlet fever in 12 per cent; diphtheria in 16 per cent; chorea in 15 per cent; rheumatism in 44 per cent and tonsillitis in 66 per cent of the cases."

A little consideration of these state-

ments which are presumed to be authoritative gives occasion for some speculation. In 1900 there were 137.4 deaths per 100,000 from heart disease, in 1928 there were 228 per 100,000. Practically seventy-five per cent of all cases of heart disease develop in children under ten years of age. The teeth and tonsils are the favored portals of entry for the infection responsible for the heart damage, and the frequent association with the infectious diseases of childhood indicates a probable source of infection.

However, since 1900 there has been a very definite decline in the incidence of these infectious diseases and the people have come to appreciate the part played by the tonsils in producing invalidism to the extent that a large per cent of children of school age have during this period been tonsillectomized.

It seems reasonable to expect that these preventive measures which have caused a marked decrease in the incidence of infections held responsible for heart damage should also show some effect upon the mortality from heart disease. If the occurrence of heart disease in those of school age has been decreased during the twenty-nine years passed there should be some reduction in the total mortality even though there may have been a marked increase of the degenerative diseases of the heart in older groups, but this does not appear to be the case. There seem to be a fairly constant percentage of increase in all the age groups.

The effect of preventive measures should have been manifest in some degree after 1920 at least, but in 1922 there were 210.7 deaths per 100,000 and in 1924 there were 221.6 per 100,000. In 1922 there were 19,356 deaths in the 65 to 69 age group and in 1924 the deaths in this group were 21,924, an increase of more than 13 per cent. In 1922 there

were 1864 deaths from heart disease in the 15 to 19 age group and in 1924 there were 2167 in this same age group, which is an increase of about 17 per cent. The 5 to 9, the 10 to 14, and the 20 to 24 age groups show a similar rate of increase during this period, though in none of these groups is the percentage of increase as high as in the 15 to 19 age group.

In all of these age groups except that of the sixth decade the majority of the deaths are due to acute processes resulting from recent infections, conditions toward the prevention of which our preventive measures are directed.

No one will concede that our efforts to eradicate the causes of heart disease have been misdirected, nor do these figures justify such a conclusion. No satisfactory explanation can be made, however, from the data now available. There is not sufficient information as to the incidence of heart disease to determine whether the steady increase of deaths from that cause indicates a more frequent occurrence or a greater fatality.

#### PERIODIC EXAMINATIONS

Considerable effort is being made in other states to popularize the idea of periodic health examinations. Only sporadic and indifferent attempts to inaugurate this custom have been observed in this state. Perhaps the profession has not yet been convinced of its value to the people or to themselves, although the people have, to some extent at least, accepted the proposition and are taking themselves to various clinics and hospitals for just such examinations.

This is unfortunate, for it really defeats the purpose of the plan in which it is intended that the examinations should always be made by the family physician, to whom the person would properly go for advice or treatment should the ex-

amination discover anything abnormal or pathologic.

These examinations must be considered in the line of professional service for which the doctor is entitled to a fee, a fee that is commensurate with the time and effort and skill required. It should be at least equivalent to the fee paid by insurance companies for similar service. But there's the rub. Physicians are disinclined to advise the apparently healthy members of a family, in which their services have sometimes been required, that they should come to them once each year for an examination for which the fee will be five or perhaps ten dollars.

That is too much like soliciting business, to which most doctors are averse, and which they have been taught is unethical. However, it must be conceded that periodic examinations of the apparently well is a conservative measure of considerable value to the community as well as the individual, and since the organized medical profession has undertaken to sponsor the campaign, it is up to us to so popularize the idea that the people will go to the doctor for these examinations without being solicited by him.

This can best be accomplished by the county societies, and the plan adopted by these organizations should contemplate the holding of one or a series of health clinics by each society, at which all of the members should assist, and at which all applicants will be examined free of charge. The record of the examination should be given to and retained by the family physician of the applicant. This courtesy should be observed whether the family physician mentioned by the applicant is a member of the society or not. The examination should be conducted by the family physician if he is in attendance at the clinic. Except at these clinics these examinations should be made only



by the family physician, and at a uniform fee to be agreed upon by the members of the society.

One or two such free health clinics conducted by each county society in the state should sell the idea to the people, if it is salable. The purpose, and the time and place at which these clinics are to be held, should be very thoroughly advertised, preferably by display advertisements in the county newspapers, several weeks before the date set. The expense of such advertisements will be a very good investment and will tend to gain the co-operation much needed in this kind of work.

It would greatly increase the effect of this campaign if it could be made statewide, and if all of these clinics were held on the same day. An effort will be made to arrange for something of this kind if no better suggestions are offered.

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### R— CHIPS

Small men are frequently mistaken. Great men are never mistaken but they do sometimes change their minds. One who is too young, or too old or too great to change his mind has reached the limit of his progress.

Descartes said: "Science may be compared to a tree; metaphysics is the root, physics is the trunk, and the three chief branches are mechanics, medicine and morals, the three applications of our knowledge to the outward world, to the human body, and to the conduct of life."

In an address on Future Obstetrical Practice by Henry Jellett, M.D., which was published in *The Lancet*, October 26, the commonly accepted explanation for the high maternal mortality are given, however the whole situation is summed up in a few words, which seem to justify repetition. "We seem to run after methods—principally operative methods, and to neglect men—and women. We are eternally looking for new advances—advances that must be built on knowledge, and neglecting the

foundation on which that knowledge must be built. We create hospitals which make interference with normal labor easy, and we neglect the essentials which make interference safe, and the teaching which make it unnecessary. We make medical practitioners and midwives, but we fail to provide them with a sufficient knowledge of midwifery."

Amyloid kidney is not a specific form of nephritis but is a manifestation of a systemic disease, according to Noble and Major, who have reported some studies on the subject in the *Archives of Pathology* for November. They consider amyloid kidney as primarily a vascular disease in which the glomeruli are particularly involved. It may lead to renal insufficiency in which case the kidney is usually contracted but not always. The symptoms and signs of an advanced amyloid kidney resemble those of chronic glomerulonephritis except that in the former hypertension is an exceptional finding.

Reimann seems to think little will be gained by attempts to grade the relative malignancy of cancers of the breast from the histologic picture of specimens removed at operation. In a paper on this subject, published in the November number of *Archives of Pathology*, he said in regard to the question of recurrence: "It is clear that the answer does not lie in the microscope but in the gross aspects. Did the surgeon leave any behind? If he did, the tumor will reappear from the fragments—unless they perish. And experience gives but little hope of this. If, on the other hand, the tumor is completely removed, there is no possibility of its return. It is all in a jar of formaldehyde. In either case attempts at grading the tumor are a waste of time. If, in a patient from whom every vestige of the original growth was removed, another does develop, it must be a new one. Thereupon, I presume, one starts all over again and grades the new one. If some fragments have been left behind, one does not need to determine from the histologic preparation that the tumor will recur. It is known that it will. The only possible thing one can hope to grade

is the rate at which the tumor will recur. . . . The question naturally arises if fragments are left behind when a tumor is removed, why do they not immediately continue to grow instead of waiting for years as they often do? Why do they grow at all?"

That sodium chloride was a factor in the cause of high blood pressure has been accepted by the profession and handed out to the laity with more or less confidence, ever since Allen reported his results with restriction of salt intake in the treatment of cases of hypertension. Recently Berger and Fineberg have made some careful studies on the effects of sodium chloride on blood pressure. These studies were reported in the October number of *Archives of Internal Medicine*. Frequent and regular records of the blood pressure were made on patients while on diets containing sodium chloride in amounts varying from 1 Gm. per day to 30 Gm. per day. Patients were observed in the hospital for from twenty to eighty-one days. After from ten to fourteen days rest in bed, salt was withdrawn from the diet, the output dropping to below 1 Gm. per day. After being kept at this level for periods of from two to five weeks sodium chloride was again added to their diet in quantities of from 10 to 30 Gm. per day, and in several instances this was supplemented by the intravenous administration of from 5 to 15 Gm. They reached the following conclusion: "We have failed to see any unquestioned modification of the blood pressure curve which could be definitely attributed to variations in the sodium chloride intake."

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## SOCIETIES

### SUMNER COUNTY SOCIETY

On the afternoon and evening of November 7th the Sumner County Medical Society entertained the members of the Tri-County Medical Society (Sumner, Cowley County, Kansas, and Kay County, Oklahoma) at a meeting in Wellington. About 60 physicians were in attendance, and the following program was carried out:

Paper—Tuberculosis of the Female

Genital Tract, Dr. E. A. Tufts, Arkansas City, Kansas.

Clinic—Internal Medicine, Dr. P. T. Bohan, Kansas City, this clinic was well attended and interesting.

Paper—The Treatment of Diabetes Mellitus, Dr. B. A. Spalding, Arkansas City, Kansas.

Dinner. Followed by an hour's musical entertainment.

Paper—The Vomiting of Pregnancy, Dr. A. L. Calkins, Kansas City.

Paper—Differential Diagnosis of Visceral Disease, from an Affection of the Nerve Supply to the Abdominal Wall, as a Cause of Abdominal Pain, Dr. P. T. Bohan, Kansas City.

The next meeting of the Tri-County Society will be held in Cowley County early in the spring of 1930.

I. H. DILLON, Secretary.

### CLAY COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Clay County Medical Society was held at the Clay Center Hospital, Wednesday evening, November 13. On account of bad roads the attendance at this meeting was not as good as we usually have. The program, however, was excellent and well repaid those who ventured out.

The program was given by Dr. W. F. Bowen of Topeka, Kansas. It consisted of several reels of moving pictures, showing the clinics seen by Dr. Bowen on his recent trip to Vienna, Berlin and other places in Europe.

X. OLSEN, Secretary.

### SHAWNEE COUNTY SOCIETY

The annual meeting of the Shawnee County Medical Society was held at the Jayhawk on Monday evening, December 2.

Dr. David S. Hillis, Associate Professor of Obstetrics at Northwestern University Medical School, and Chief of the Obstetrical Staff of Cook County Hospital, Chicago, was the guest speaker. Dr. Hillis' subject was "Obstetrical Problems for the General Practitioner."

The following officers were elected:

Arthur D. Gray, M.D., President; George Henry Allen, M.D., Vice President; Milton B. Miller, M.D., Treasurer;



Earle G. Brown, M.D., Secretary; W. E. McVey, M.D., Member, Board of Censors.

Preceding the meeting dinner was served. Seventy-five members and guests were in attendance.

EARLE G. BROWN, Secretary.

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### DEATHS

William James Phillips, Beaumont, aged 72, died in September of carcinoma at Wesley Hospital, Wichita. He graduated from State University of Iowa College of Medicine, Iowa City, in 1885.

Daniel M. Smith, Kansas City, aged 70, died October 9 of nephritis, uremia and dilatation of the heart at Providence Hospital. He was on the staff of Bethany Hospital. Was a member of the Society.

William E. Crawford, Council Grove, aged 76, died August 30, of myocarditis. He graduated from Kansas City Medical College, Kansas City, Mo., in 1888.

Jacob Gray Dorsey, Wichita, aged 69, died November 15 of pneumonia. He graduated from the College of Physicians and Surgeons, Keokuk, Iowa, in 1883. He was a member of the Society.

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### MEDICAL SCHOOL NOTES

Dr. Forrest N. Anderson has accepted a position with the Psychiatric Hospital in Los Angeles, California.

Dr. Thomas G. Orr, Dr. L. F. Barney, Dr. M. J. Owens and Dr. Nelse F. Ockerblad attended the meeting of the American College of Surgeons which was held in Chicago, Illinois, recently.

Dr. L. A. Calkins and Dr. P. T. Bohan read papers before the Tri-County Medical Society at Wellington, Kansas, November 7th. The titles of the papers were "Vomiting of Pregnancy" and "Differential Diagnosis of Abdominal Pain."

Dr. Harold Barnes, '26, recently visited at the Bell Memorial Hospital. Dr. Barnes is now located at Gage-Hall Clinic, Hutchinson, Kansas.

Drs. C. B. Francisco and T. G. Orr discussed injuries of the back and gall bladder disease, respectively, before the

Pettis County Medical Society, Sedalia, Missouri, November 18th.

Dr. Fred Rankin, Mayo Clinic, Rochester, Minnesota, was the guest of Dr. Thomas G. Orr at the Bell Memorial Hospital on November 19th.

During the recent Surgical Post Graduate Course of the Extension Division of the University of Kansas, the following guests were entertained at the Bell Memorial Hospital and by the members of the Staff: Dr. Ernest Sachs, St. Louis, Missouri; Dr. R. C. Coffey, Portland, Oregon; Dr. J. L. Porter, Evanston, Illinois; Dr. F. A. Chandler, Chicago, Illinois, and Dr. L. A. Buie, Rochester, Minnesota.

Dr. H. L. Kirkpatrick, '27, recently visited the Bell Memorial Hospital. Dr. Kirkpatrick is now associated with Dr. George H. Allen, Topeka, Kansas.

Dr. H. R. Wahl attended the meeting of the Association of American Medical Colleges held in New York City, November 7th, 8th and 9th.

Dr. L. A. Calkins read a paper before the Douglas County Medical Society November 14th which was held at Lawrence, Kansas. The title of his paper was "Difficult Labor."

Dr. Henry John of Cleveland, Ohio, recently visited the Bell Memorial Hospital and was the guest of Dr. Ralph H. Major. Dr. John has charge of the Diabetic Clinic at the Crile Clinic.

Dr. Walter Stephenson, '24, recently visited the Bell Memorial Hospital. Dr. Stephenson is located at Norton, Kansas.

Dr. Harold Palmer, '25, is spending the winter in Vienna taking post-graduate work.

Dr. Robert M. Isenberger is at the Mayo Clinic carrying on research work. Dr. Isenberger will return to Kansas City to resume his teaching at the Medical School at the beginning of the second semester.

Dr. James R. Elliott spoke to the Clay County Medical Society October 16th on the subject of "Fracture of the Spine."

The new ward building, which was completed last summer, is being equipped at present, and two floors have been opened. Extensive changes are being made in the power plant, and a laundry is being installed. The main hospital building has recently been painted.

Dr. H. L. Dwyer addressed the Rotary Club of Muskogee, Oklahoma, during the first week of October on "Periodic Health Examinations" and the Muskogee Medical Society on "Recent Advances in the Treatment of Scarlet Fever."

Dr. L. B. Spake, Assistant in Nose and Throat Department, Bell Memorial Hospital, was recently operated upon for appendicitis at the Bethany Hospital, Kansas City, Kansas.

Dr. Tom Rivers of the Rockefeller Institute, New York City, was the guest of Dr. Russell L. Haden. Dr. Rivers spoke before the Academy of Medicine, November 22nd on "The Filtrable Virus." He also visited Bell Memorial Hospital while in Kansas City.

Dr. James Weaver, Assistant in the Orthopedic Department, has resigned and is now located close to Bagnell Dams, Missouri.

Dr. Paul Stookey read a paper before the Southern Medical Association at New Orleans, November 21st, on "Oedema of Vulva as a Manifestation of Syphilis in the Female."

Dr. Oliver Miner, '18, of Garden City, Kansas, recently visited in Kansas City. Dr. Earl C. Padgett, Instructor in Surgery, is the proud parent of a new son, Earl Calvin Padgett, Jr., born Monday, November 19th.

Dr. Abe Eitzen, '18, of Hillsboro, Kansas, recently returned from Vienna and Budapest where he has been taking post-graduate work. Dr. Eitzen visited in Kansas City.

Dr. L. N. Hershey, '22, recently accepted a position in the Neuro-psychiatric Hospital, Detroit, Michigan.

## BOOKS

Physiological Chemistry, Pettibone's Textbook of, revised and rewritten by J. F. McClendon, Ph. D., Professor of Physiological Chemistry Medical School, University of Minnesota. Fourth edition. Published by C. V. Mosby Company, St. Louis. Price \$3.75.

This book was prepared originally as a text book for the students in the medical school. It has been repeatedly revised and its identity has been maintained. Such changes and additions as were necessary to make it conform to modern views and modern knowledge have been made.

The Blood Picture and its clinical significance by Professor Dr. Victor Schilling, physician in chief, The First Medical University Clinic, Charite, Berlin. Translated and edited by R. B. H. Gradwohl, M.D., director Pasteur Institute, St. Louis, etc. Seventh and eighth revised edition. Published by the C. V. Mosby Company, St. Louis. Price \$10.00.

The clinical interpretation of a blood picture does not always give us important information, but it is not out of reason to predict that with more experience and more accurate knowledge of the changes in the blood structure, we will depend more and more upon it for diagnosis. Schilling's work with the blood has given us some very valuable data and these will no doubt stimulate other workers in this field. While this work is perhaps too technical for the practitioner, it should readily recommend itself to the technician.

Modern Methods of Treatment by Logan Clendenen, M.D., professor of Clinical Medicine, lecturer on therapeutics, medical department, University of Kansas, etc. Third edition. Published by C. V. Mosby Company, St. Louis. Price \$10.00.

The author has made several changes and additions which bring it more definitely up to date. The book was originally intended to present each method of treatment so explicitly that it could not be misunderstood. His effort has been most highly appreciated by the profession.

Diseases of the blood by Paul W. Clough, M.D., associate in clinical medicine, Johns Hopkins University. Published by Harper and Brothers, New York. Price \$2.50.

This is not a very large book, in fact one may put it in his pocket, nevertheless, it contains all the data concerning



the blood the practitioner needs. The author says, however, that strictly speaking there is no such thing as a disease of the blood. It is not a living tissue. Even the blood corpuscles are no longer capable of reproduction and function in a passive manner. Abnormalities in the blood corpuscles must be regarded as symptoms of disease elsewhere in the body.

Disorders of the Sexual Function in the male and female by Max Huhner, M.D., chief of clinic, genito-urinary department, Mount Sinai Hospital Dispensary, New York City, etc. Third edition. Published by F. A. Davis Company, Philadelphia. Price \$3.00.

In this revision the author has added a new chapter on dysmenorrhœa in which most of the space is devoted to treatment. The author has pointed out, apparently with excellent reason, that the treatment of sexual neurosis belongs to the genito-urinary rather than the neurological specialist since such treatment requires a training in intra-urethral manipulation not had by the latter. He also suggests that it is possible by rectal examination to determine the difference in the feel of the prostate and the seminal vesicles, as pathologically influenced by masturbation and withdrawal on the one hand and gonorrhœa, tuberculosis or senility on the other.

Practical Massage and Corrective Exercises by Hartwig Nissen, late president of Posse Normal School of Gymnastics, etc. Fifth edition. Published by F. A. Davis Company, Philadelphia. Price \$2.50.

The author first describes the different manipulations and their effects; then certain corrective exercises with lists; and finally the treatment of various diseases and injuries. Among the diseases for which treatment is given one notices high blood pressure and arteriosclerosis, hysteria and hypochondria, chlorosis and anemia, insomnia, diabetes mellitus, congestion of the brain, paralysis, locomotor ataxia, anterior poliomyelitis and many others.

The Newer Knowledge of Nutrition by E. V. McCollum, Ph. D., Sc. D., Professor of Chemical Hygiene in the School of Hygiene and Public Health, of the Johns Hopkins University, Baltimore, Maryland, and Nina Simmonds, Sc.D., (Hygiene) Formerly Associate Professor of Chemical Hygiene in the School of Hygiene and Public

Health, of the Johns Hopkins University, Baltimore, Maryland. Published by the MacMillan Company, New York. Price \$5.00.

In the fourth edition of this book, which is now on the market, the recent discoveries concerning the etiology and treatment of the anemias are fully discussed. All the recent researches concerning nutrition are presented, in fact whatever is new on the subject of nutrition has been added by the authors in order to bring the work strictly up to date.

The Surgical Clinics of North America. (Issued serially, one number every other month.) Volume 9, number 5. (Philadelphia Number—October, 1929) 299 pages with 111 illustrations. Per clinic year (February 1929 to December 1929.) Paper, \$12.00; Cloth, \$16.00. W. B. Saunders Co., Philadelphia and London.

Deaver and Burden present a series of very instructive clinical reports in the first part of this volume of the Clinics. Babcock follows with reports of operative decompression of aortic aneurysm by carotid-jugular anastomosis, a similar operation in the treatment of advanced pulmonary tuberculosis, and other interesting cases. Nossau discusses the treatment of gastric and duodenal ulcer. Norris discusses the factors influencing gynecologic mortality and morbidity. Grant presents a clinical study of middle cerebellar tumors in children. Speese and Bothe report several interesting cases of thoracic surgery. Smith reports a case of traumatic rupture of the spleen. Brown reports a case of diaphragmatic hernia, a case of acute mesenteric adenitis, and a case of acute peritonitis following vulvitis in a child. There are numerous other very excellent reports.

—R—

### **Dextri-Maltose for Modifying Lactic Acid Milk**

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— R —

### American Pharmaceutical Manufacturing Association

“Keep Well—Consult Your Family Physician” is the slogan proposed as a part of the advertising campaign to be fostered by the American Pharmaceutical Manufacturers’ Association in the coming year. Definite action on the nature of this campaign as well as action on the future research program of the Association will be taken at the semi-annual meeting to be held in the Hotel Washington, Washington, D. C., December 16 and 17, 1929.

The meeting to be held on the first day will be given over largely to problems of executive nature and a general discussion of means and ways of obtaining greater efficiency and economy in distribution.

The second day will be devoted primarily to meeting members of the various government bureaus and departments with which the members of the Association come in contact in the course of their daily activities.

A visit to the Food, Drug and Insecticide Administration, Department of Agriculture and to the Prohibition and Narcotic Divisions of the Treasury Department will occupy the forenoon of December 17th.

At the luncheon on this day, Senator George H. Moses, of New Hampshire, President pro-tempore of the United States Senate, will be the guest of honor and will address the members. The afternoon will be devoted to addresses by other Government officials and reading and discussion of the reports of the Research Board and the Contact Committee of the Association.

Among the important topics to be discussed in the executive sessions are Publicity, The Proposed Census of dispensing physicians, Institutional Advertising and the “Consult Your Family Physician” campaign.

The officers of the Association are:

President, H. Sheridan Baketel, M.D., Jersey City, N. J.; Vice Presidents, Henry Osterman, Seymour, Ind., E. P. Crowe, Philadelphia, Pa.; Secretary, John G. Searle, Chicago, Ill.; Treasurer, Frank A. Mallett, Des Moines, Iowa.

— R —

### A SOLILOQUY

J. R. SCOTT, M.D., Ottawa

I had a squeamish stomach  
Had no relish for my fare;  
For days and days unnumbered  
I hadn't had a square.  
So I hied me to the clinic  
And was shunted through it's mill  
It would have cost me fifty  
If I had paid the bill.  
They filled me up on bismuth  
And shot me with X-Ray  
To get my stomach function  
As on my back I lay.  
Pylorus, it was lazy  
And would not open up,  
So while my paunch was loaded  
I had an empty gut.

Now one is never easy  
When the middle gut is lean,  
When the chyme is flowing lightly  
One is feeling mighty mean.  
A jejuno-gastrostomy  
Just makes another route  
And shortens up the circuit  
To leave pylorus out,  
That the chyme will flow more freely  
Through the hole in stomach's pit  
And the things I like to nibble  
Will keep me feeling fit.  
So I thought and sought a surgeon,  
Who was skillful, who was wise  
And he changed provision's routing—  
Made a hole of ample size.  
Now I thought, “My trouble's over  
And I will make the grade”  
When pneumonia had its inning  
Nearly laid me in the shade.  
But I had a constitution,  
And to save my neighbors pain  
I determined to keep living  
And here I am again.

One such a trip is plenty,  
That experience will stay,  
That fortnight I'll remember  
Though long will be the way  
I yet may have to travel  
On toward the setting sun  
Where the end of life is waiting—  
I've already had a dun.  
One wonders if the friendships,  
If the bonds of kith and kin  
Are the cords that hold us earthward  
When the strands of life are thin.  
So while I'm on vacation  
In Research, where I stay  
For Ottawa and friends I pine,  
God speed home coming day.



### A Medal to Dr. R. L. Haden

(By the Associated Press)

Chicago, Nov. 23.—For their work in the field of radium and *x*-ray treatment, Dr. Joseph Colt Bloodgood of Baltimore and Dr. Russell L. Haden of Kansas City will be presented with the gold medal of the Radiological Society of North America.

Announcement of the award—the highest within the gift of the society—was made today by Dr. MacMillan J. Hubeny of Chicago, president of the society. The presentation will be made at the society's fifteenth annual meeting in Toronto, Ontario, opening December 2.

Dr. Bloodgood, clinical professor of surgery at Johns Hopkins university, is given the award for his work in the study of "bone malignancy, its diagnosis and treatment by *x*-ray and radium." Dr. Haden will be honored for his research work in *x*-ray study of dental infection. Three years ago he was awarded the bronze medal of the American Medical Association for research in dental bacteriology.

Only eighteen persons have been awarded the radiological society's gold medal, including Mme. Curie of France.

Dr. R. L. Haden is head of the experimental laboratory of Bell Memorial hospital and is professor of experimental medicine on the staff of the University of Kansas at Bell Memorial. He lives at 439 Greenway terrace.

### Aseptic (Lymphocytic) Meningitis

The type of meningitis described, of which five cases are reported by Henry R. Viets and James W. Watts, Boston (J.A.M.A., Nov. 16, 1929), is characterized by an acute but relatively mild onset, with headache, vomiting and moderate fever. The disease is self-limited, lasting from three to six weeks. Recovery takes place without residual paralysis. The cerebrospinal fluid showed a marked lymphocytic pleocytosis, without polymorphonuclear cells. The cells may reach 500 or more per cubic millimeter. Protein in the fluid is slightly increased, but the sugar and chloride content do not vary from the average range. The colloidal gold curve suggests maningitis.

Tuberculous meningitis is usually suggested by the clinical appearance and the early cerebrospinal fluid reactions. The fluid, however, does not clot, bacilli are not demonstrable, and the sugar content remains high.

### Spinal Arthritis

Louis W. Allard, Billings, Mont. (J.A.M.A., Nov. 16, 1929), asserts that spinal arthritis in its various types is a common affliction of adults, especially the laborer. Extensive arthritis of the spine may be found without symptoms. Symptomatic arthritis in its incipience is without roentgen evidence. The discomforts and disabilities from spinal arthritis in industrial injuries are largely due to disturbance of the partially fused joints. Arthritis subjects are prone to disability of greater or less duration from injuries that would not affect a normal person. Disabilities complicated by arthritis occasion a longer convalescence than disabilities occurring in normal spines. The victim of arthritis is not a normal man. His efficiency is lowered. He is awkward, often distracted by his discomfort, easily fatigued, and an easy prey to minor accidents. He is an industrial hazard. Patients with recognized arthritis, properly advised, may be preserved for years of usefulness, with a big saving to industrial insurance. England is developing special clinics to take care of a rheumatic problem which complicates nearly 10 per cent of the clinical material. America with similar racial and social conditions may be laboring under a similar condition.

### Hypoglycemia and Convulsions of Early Life

From the cases cited by J. P. Crozer Griffith, Philadelphia (J.A.M.A., Nov. 16, 1929), it appears evident that in convulsions in children there is probably a frequent association between this disorder and the existence of a low blood sugar content. Whether, however, this is an etiologic relationship cannot be determined from these investigations; and they show, further, that a low blood sugar may exist without the occurrence of convulsions. On the other hand, in the

first case, which was that most carefully studied, the remarkably rapid improvement on four different occasions, and the rapid response seen also in the second case, seem to justify the conclusion that, at least in some instances, the causative relationship of hypoglycemia to convulsions may be reasonably assumed.

—R—

### **Hernia of Diaphragm in Children**

P. E. Truesdale, Fall River, Mass. (J.A.M.A., Nov. 16, 1929), summarizes his paper as follows: A normal diaphragm is essential for perfect physical endurance. The vast majority of defects discovered during life are of congenital origin. Congenital hernia involving the stomach alone and revealed in infancy or early childhood demands surgical treatment only when disturbing symptoms persist. Hernia of the diaphragm, congenital or acquired and involving the transverse colon, should be dealt with by the two-stage operation without regard to the age of the patient. While children withstand operation surprisingly well, risk of shock will be reduced by the use of a mechanical respirator with intertracheal anesthesia. Truesdale's series of six operations on children with intestinal obstruction is too small to serve as a criterion of the surgical mortality. All survived with the two-stage operation, which in each instance converted what would have been a complicated major endeavor into two relatively safe and simple procedures.

—R—

### **Puerperal Morbidity and Mortality**

From a study made by John Osborn Polak and Chester Clark, Brooklyn (J.A.M.A., Nov. 9, 1929), of the mortalities and morbidities in this country and in England, the following conclusions are drawn: 1. The mortalities directly attributable to childbirth are largely preventable. 2. Intelligent antenatal care which is followed by consecutive hospital attention by the same group of men who have followed the case in the antenatal clinic or in private practice can reduce the fatalities from toxemia, sepsis and from contracted pelvis. 3. By increasing the operative incidence in obstetrics, maternal mortalities have been materially

raised over what is recognized as the average in well conducted institutions. 4. The present method of recording morbidity is not only inaccurate but unreliable and does not give a true index of the actual results of obstetric care. 5. Prenatal care can and does reduce the incidence of stillbirth but there is a large class of macerated fetuses, premature births and congenital anomalies that so far have not been influenced by antenatal instruction. 6. The woman who has a history of previous streptococcic infection is protected by the development of an immunity against subsequent infections, and is therefore less liable to have a morbid course and likewise less liable to die. 7. All the reviewed statistics show that from 90 to 95 per cent of all labors terminate spontaneously and that the higher the incidence of operative intervention, whether done by the expert or by the tyro, the greater the increases in both the maternal and the fetal mortality. Therefore, it may be deduced, first, that childbirth can be made safer by intelligent appreciation of the physiologic mechanism of labor and adherence to strict surgical technic, and, secondly, that in the presence of complicating disease the pregnancy in most instances can be disregarded and attention given to the treatment of the disease.

—R—

### **Factors and Causes of Maternal Mortality**

R. W. Holmes, Chicago; R. D. Mussey, Rochester, Minn., and F. L. Adair, Minneapolis (J.A.M.A., Nov. 9, 1929), analyze the maternal mortality rates from all causes and from puerperal septicemia for the United States and certain foreign countries per 10,000 live births during a period of years, as well as other available data. It is evident that the maternal mortality rate of the United States is not one of which we can be proud. There are certain problems, not insurmountable, which confront physicians for solution before this rate can be reduced materially. The most important factor is the provision of suitable institutions and of a well trained personnel to provide proper care for mothers during pregnancy, labor and the puerperium. The question of physician, mid-wife or



nurse is not so essential as the character and training of the individual attendants. It does not especially matter whether obstetric care is urban or rural, at home or in the hospital, as good care can be provided under all these conditions. It is still necessary to educate laymen to the dangers of abortions, toxemias and infections, and they must further realize the importance of good care during pregnancy, labor and the puerperium. It is also necessary for those now practicing obstetrics to give a good account of the "talent" entrusted to them. It is most important to make proper and adequate provision for the necessary and suitable training of those who are to practice obstetrics in the future.

—————R—————

#### Aspiration During Tonsillectomy

In a series of twenty-five cases reported by R. V. May, T. W. Thoburn and H. C. Rosenberger, Cleveland (J.A.M.A., Aug. 24, 1929), the roentgenograms showed aspiration in six of the first eleven cases and likewise in six of the remaining fourteen cases. The only difference in technic was a full Trendelenburg position and a lighter anesthesia used in the series of fourteen cases, while suction and atropine were used in two cases of the series of eleven cases. This gives an aspiration percentage of 54.4 for the first eleven cases and of 42.8 for the series of fourteen cases, while for the entire series of twenty-five cases the aspiration percentage is 48. In the two cases in which suction was used, marked aspiration occurred. In four of the twelve cases showing aspiration, the aspirated material was limited to the upper right side of the chest, while in a fifth case it appeared first in this region and later was present in both lungs. In six cases aspirated material was demonstrated in both lungs, while in two cases aspiration was demonstrable as far as the bifurcation of the trachea. Of the five cases that revealed aspirated material in the lungs at the conclusion of the operation, four cases showed either a complete or almost complete elimination of aspirated material at the end of six hours after operation. They

conclude that the use of the *x*-rays in investigating the degree of aspiration during operation on the upper air passages yields results much more informative than are the results gained through observations by bronchoscopy and indirect laryngoscopy. The incidence of aspiration, particularly during tonsillectomy done under inhalation anesthesia, may be diminished by the adoption of (a) The extreme Trendelenburg position. (b) Constant and thorough removal of all pharyngeal secretions. (c) Choice of types of anesthetic, and operative technic which cause the appearance of a minimum amount of mucous secretions and hemorrhage. (d) The degree of anesthesia, which in part at least preserves the irritability of the laryngeal and tracheal reflexes.

—————R—————

#### Arsphenaminized Serum Therapy of Cerebro-Spinal Syphilis

The Swift-Ellis treatment was employed by Henry S. Blesse, Hot Springs National Park, Ark. (J.A.M.A., July 20, 1929), in a series of 100 cases without modification. The object of this series was to note the influence of arsphenaminized serum therapy on the spinal fluid Wassermann reaction of patients, suffering from cerebrospinal syphilis, whose spinal fluid Wassermann reaction had not been disturbed by two intensive courses of arsphenamine administered intravenously. The intra-spinal treatment was given by administering 0.75 Gm. of neoarsphenamine intravenously, and five minutes later 50 cc. of blood was withdrawn from the patient by the open method of introducing an 18 gage needle into a convenient vein. Blood was then kept at room temperature for one hour to permit clotting, after which the clot was freed from the sides of the tube or container with a platinum wire. It was then placed in the refrigerator for twenty hours, after which 15 cc. of serum was removed by pipet. The serum obtained was then inactivated for thirty minutes in an oil bath at 57 C., after which it was cooled to room temperature. Spinal puncture was then performed with a 20 gage spinal needle, after which the 15 cc. of serum was introduced by

the gravity method. Of the 100 patients that received two courses of intraspinal therapy, twenty-eight had negative spinal fluid Wassermann reactions in all dilutions, on completion of all treatment, thirty-four had distinct reduction, there was slight reduction in nineteen, and in the remaining nineteen there was no change. Only nine patients failed to show clinical and symptomatic improvement. The remaining ninety-one patients were distinctly improved. There was not an instance of a severe reaction following or during treatment.

—R—

### Exotoxins of Hemolytic Streptococci

Anna W. Williams, New York (J.A.M.A., Nov. 16, 1929), asserts that in the making of antitoxic serums to be used in treating hemolytic streptococcus exotoxin infections, theoretically it should be well to use a strain of streptococcus having maximum exotoxin producing qualities; but practically any strain of hemolytic streptococcus showing an ability to produce an exotoxin will, given a responsive horse, stimulate the production of an antitoxin serum that will be effective in all but the exceptional case. It is well, however, for the practicing physician to bear in mind that these exceptional cases do occur, and that they may explain the occasional lack of response to the antitoxic serum.

—R—

### RELAXATIVES

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# Kansas Medical Society

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## CONTENTS

### ORIGINAL ARTICLES

The Mechanism in Psychogenic Disease—N. R. Smith, M.D., Halstead .....	1
Anesthesia: Local vs. General—Daniel Peterson, M.D., Herington .....	4
Undulant Fever—Earle G. Brown, M.D., Topeka .....	9
The Treatment of Secondary Anemia—Russell L. Haden, M.D., Kansas City .....	15
Ethics—A. J. Davis, M.D., Logan .....	17
Tuberculosis Abstracts .....	19

### EDITORIAL

Basic Science Acts .....	22
In Five States .....	22
Enforcement and Efficiency .....	23
Where Needed .....	25
Our Advertisers .....	26

### MISCELLANEOUS

Council Meeting .....	26
Tuberculosis Clinics for Doctors .....	27
Medical and Pharmaceutical Co-operation .....	21
Societies .....	28
Books .....	30
Kansas City Southwest Clinical Society .....	31

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## CONTENTS

### ORIGINAL ARTICLES

The Treatment of Empyema—J. E. McFarlane, M.D., Manhattan. . . . .	35
The Early Diagnosis of Tuberculosis—F. A. Trump, M.D., Ottawa. . . . .	37
A Visit to Harvey's Alma Mater, Padua—Ralph H. Major, M.D. . . . .	41
The Blood Pressure in Disturbances of the Thyroid Gland—Joseph F. DeCourcy, M.D., Cincinnati . . . .	44
Treatment of Hemorrhoids—Barrett A. Nelson, M.D., Manhattan. . . . .	47
An Umbilical Cord Tie—Harry W. Davis, M.D., Plains, Kansas. . . . .	46
Expert Evidence—J. A. Dillon, M.D., Larned. . . . .	50
Technique for Routine Gastric Analysis and Duodenal Drainage—Rilla Hammat, Kansas City, Kan. . . . .	52
Tuberculosis Abstracts. . . . .	53

### UNIVERSITY OF KANSAS CLINICS

Ulceration of the Meatus and Ammonia of the Diaper—Hugh T. Dwyer, M.D. . . . .	55
The Simultaneous Occurrence of Infantile Paralysis in Mother and Infant—James B. Weaver, M.D. . . . .	56

### EDITORIAL

The Sheppard-Towner-Newton Bill . . . . .	58
Reciprocity and the Basic Science Act . . . . .	60

### MISCELLANEOUS

Chips. . . . .	61
Societies. . . . .	62
Medical School Notes . . . . .	65
Deaths. . . . .	67
Books. . . . .	67

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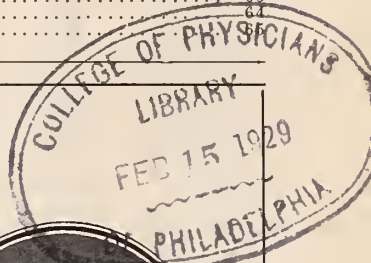


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## CONTENTS

### ORIGINAL ARTICLES

- The Use of Digitalis—P. T. Bohan, M.D., Kansas City, Mo. . . . . 71
- The Treatment of Acute Polio-Myelitis from a Physiological and Pathological Standpoint—Edwin D. Ebricht, M.D., Wichita. . . . . 76
- Some Aspects of Ocular Headache—Lyle S. Powell, M.D., Lawrence. . . . . 81
- The Association of Physicians and Dentists in Relation to Focal Infection—Edwin N. Robertson, M.D., Concordia. . . . . 84
- Tuberculosis Abstracts . . . . . 86

### UNIVERSITY OF KANSAS CLINICS

- Chronic Dilation of the Duodenum—Clinic of Thomas G. Orr, M.D. . . . . 88

### EDITORIAL

- There Is Still Hope . . . . . 94
- Opening the Hospitals . . . . . 98
- Physiotherapists. . . . . 97

### MISCELLANEOUS

- Chips. . . . . 99
- Societies . . . . . 101
- Influenza—J. D. Scott, M.D., Ottawa . . . . . 101
- Making the Crinoline Strips for the Plaster-of-Paris Bandages When the Crinoline Comes in Bolts—E. T. Fleir, Bell Memorial Hospital . . . . . 102
- Medical School Notes. . . . . 103
- Committees. . . . . 100
- Council Accepts Optochin. . . . . 104
- Deaths. . . . . 102
- Books. . . . . 103
- American College of Physicians . . . . . 104

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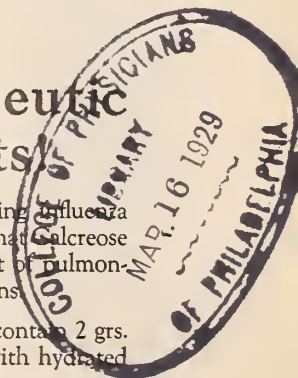
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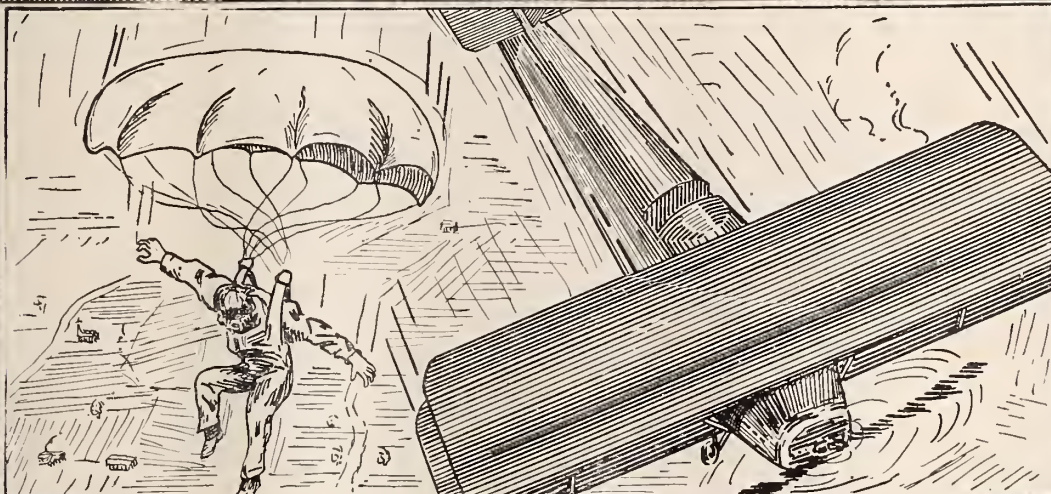
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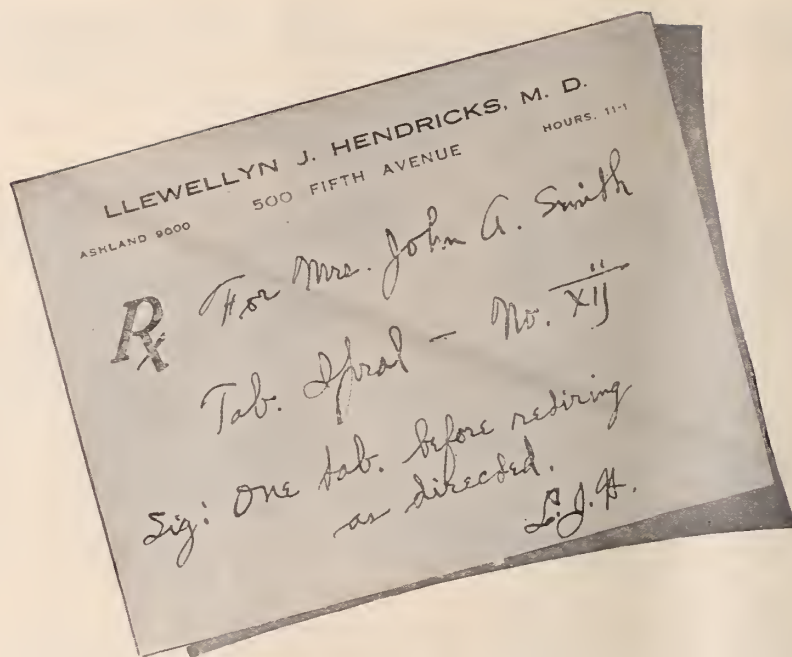
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### CONTENTS

#### ORIGINAL ARTICLES

- Narcotic Drug Addiction—Forrest A. Kelley, M.D.,  
Winfield. . . . .107  
Acute Appendicitis—A. Newman, M.D., Pittsburg. . . . .112  
The Sedimentation Test—J. F. Lattimore, M.D., Topeka. . . . .115  
Congenital Malformation of the Kidneys with Report of  
a Case—A. Boese, M.D., Coffeyville. . . . .117  
TUBERCULOSIS ABSTRACTS. . . . .119

#### KANSAS MEDICAL LABORATORY ASSOCIATION

- Complete Fixation and Blood Count—Lance C. Hill,  
Emporia. . . . .121

#### EDITORIAL

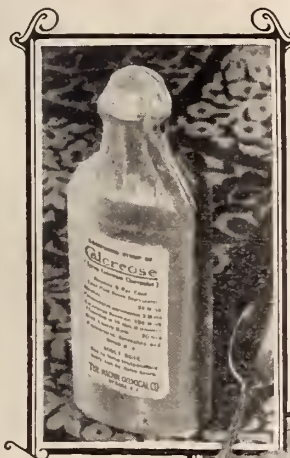
- The Annual Meeting. . . . .124  
Kansas Medical Golf Association. . . . .125

- Kansas Medical Laboratory Association. . . . .125  
Auxiliary. . . . .125  
Luncheon. . . . .125  
Buried Alive. . . . .126

#### MISCELLANEOUS

- Chips. . . . .126  
Program Seventy-First Annual Meeting Kansas  
Medical Society. . . . .128  
Societies. . . . .131  
Medical School Notes. . . . .134  
Deaths. . . . .127  
Books. . . . .134

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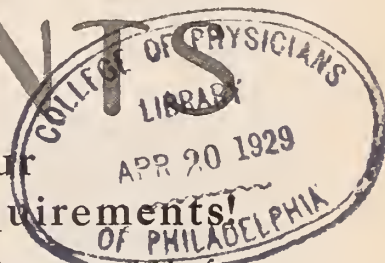
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### CONTENTS

#### ORIGINAL ARTICLES

- The Repair of Hair Lip and the Accompanying Nasal Deformity—Daniel C. Padgett, M.D., Department of Surgery. . . . . 143
- The Acute Abdomen—F. F. Barney, M.D., Department of Surgery. . . . . 147
- Acute Encephalitis—Report of an Unusual Case—F. F. Wilson, M.D., Department of Surgery. . . . . 153
- Hemochromatosis—Report of a Case With Post Mortem Findings—Paul M. Krall, M.D., and A. Morris Ginsberg, M.D., Department of Internal Medicine. . . . . 155
- Primary Carcinoma of Lung—C. G. Leitch, M.D., Department of Pathology. . . . . 160
- Treatment of Nephritis in Children—Hugh T. Dwyer, M.D., Department of Pediatric. . . . . 165

- Internal Derangement of the Knee Joint—C. B. Francisco, M.D., Clinical Professor of Orthopedic Surgery. . . . . 167
- Conservative Treatment of Otitis Media of Children—Caldwell B. Summers, M.D., Department of Pediatrics. . . . . 169

#### EDITORIAL

- Post-Graduate Medical Education. . . . . 172
- The Medical School Number. . . . . 172

#### MISCELLANEOUS

- Medical School Notes. . . . . 171
- Deaths. . . . . 171
- Societies. . . . . 174
- TUBERCULOSIS ABSTRACTS. . . . . 175



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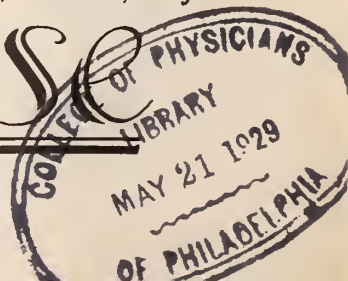
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*\*Journal of Laboratory and Clinical Medicine, 11:116.*

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# THE JOURNAL

of the

# Kansas Medical Society

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## CONTENTS

Our Organization—President's Address— T. F. Barney, M.D., Kansas City, Kan.....	179	Societies .....	193
Chlorosis with a Brief Report of Three Cases— H. N. Tihen, M.D., Wichita .....	186	Impressions from the Salina State Medical Meeting....	198
Xanthelasmic Granuloma—Report of a Case— R. F. Gard, M.D., and P. N. Johnstone, M.D.....	190	Proceedings of the Seventy-first Anniversary Meeting of the Kansas Medical Society, held at Salina, Kansas, May 7, 8 and 9, 1929.....	200
Tuberculosis Abstracts .....	192		
The Annual Meeting .....	195		

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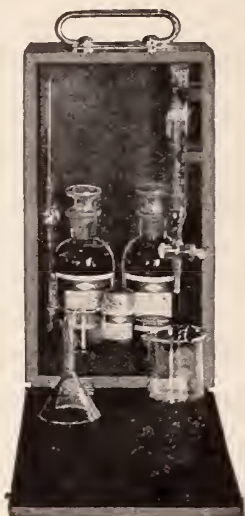
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## CONTENTS

The Treatment of Lobar Pneumonia— F. M. Wiley, M.D., Fredonia, Kan.....	213
Injuries to the Coccyx— Earl L. Vermillion, M.D., Salina, Kan.....	217
Report of the Kansas State Necrology Committee for the Current Year, April 16, 1928—April 15, 1929— Elmer E. Liggett, M.D., Chm., Oswego, Kan.....	218
Some Observations on Cancer Problem— L. S. Nelson, M.D., Salina, Kan.....	224
KANSAS MEDICAL LABORATORY ASSOCIATION— Martin Dupray, B.S., M.S., Hutchinson, Kan.....	227
TUBERCULOSIS ABSTRACTS .....	229

EDITORIAL	
Publicity and Advertising .....	
Periodic Examination .....	
Chips .....	236
MISCELLANEOUS	
The Samuel D. Gross \$1,500 Prize .....	XV
American Public Health Association .....	232
Shock Proof X-Ray Apparatus Now Available .....	XV
Societies .....	238
Proceedings of the Seventy-first Anniversary Meeting of the Kansas Medical Society, held at Salina, Kansas, May 7, 8 and 9, 1929.....	239
Deaths .....	246
Books .....	246

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Calcreose is the "stand-by" of many physicians when they require an intestinal antiseptic embodying the effectiveness of creosote.

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## CONTENTS

### ORIGINAL ARTICLES

Prenatal Care—J. D. Clark, M.D., Wichita .....	249
Post-Natal Care—M. W. Hall, M.D., Wichita .....	255
The Handling of Early Tuberculosis—Roland G. Brewer, M.D., Haddam .....	259

### KANSAS MEDICAL LABORATORY ASSOCIATION

Why Sewage Treatment—Earnest Boyce .....	266
--	-----

### TUBERCULOSIS ABSTRACTS

Serial Roentgenography and the Evolution of Pulmonary Tuberculosis—Hornier F. Sampson .....	268
---	-----

### EDITORIAL

Ethical Errors .....	271
Principles of Ethics .....	271
Principles of Medical Ethics .....	272
John C. McClintock, M.D. ....	275
Deaths .....	276
Societies .....	276
Books .....	281
Goiter Association Offers Prizes .....	279
First International Congress on Mental Hygiene .....	279
Radiologic Society of North America .....	280

## All Through The Summer Months

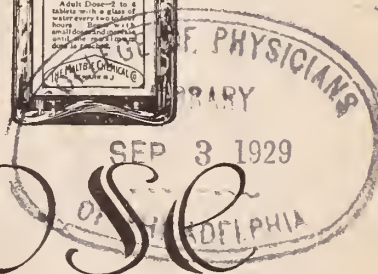
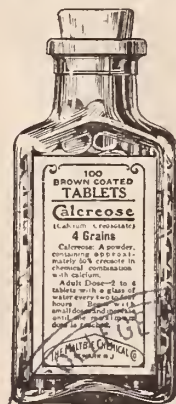
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## CONTENTS

### ORIGINAL ARTICLES

- Ketogenic Diet in the Treatment of Chronic Convulsive States—William C. Menninger, M.D., Topeka ..... 285  
The Diagnosis of Gall Stones—W. J. Walker, M.D., Topeka ..... 288  
Pernicious Anemia—Primary or Addison's Anemia—Fred J. McEwen, M.D., Wichita ..... 291  
Diagnostic Relation of Roentgen Findings to Physical Signs—In Influenzal Bronchopneumonia of Children—Frank C. Neff, M.D., Kansas City, Mo. .... 295  
Agranulocytic Angina—J. L. Lattimore, M.D., Topeka.. 298

### TUBERCULOSIS ABSTRACTS

- Sputum, Pleural Effusion and Special Fluids ..... 300

### EDITORIAL

- Infractions of the Principles of Ethics..... 303  
Chips ..... 308  
Personals ..... 309  
Medical School Notes ..... 309  
Societies ..... 309  
The Kansas City Annual Fall Clinical Conference of the Kansas City Southwest Clinical Society ..... 310  
Deaths ..... 310  
Abstract of the Proceedings of the House of Delegates at the Portland Session of the American Medical Association, July 8-12, 1929 ..... 311  
Books ..... 317  
Problems of Mechanical Refrigeration ..... 319  
Prophylaxis and Early Treatment of Pneumonia..... 320

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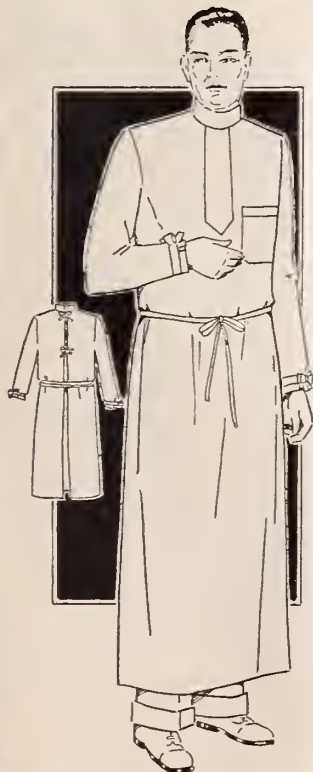
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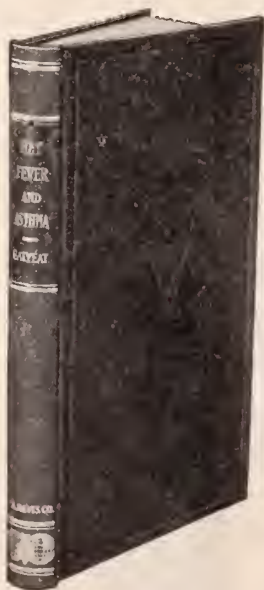
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### CONTENTS

#### ORIGINAL ARTICLES

- The Treatment of Undulant Fever with Vaccine—Report of Ten Cases—Fred E. Angle, M.D., Kansas City, Mo. 323
- Differential Diagnosis of Difficult Micturition—Edward McCarthy, M.D., Kansas City, Kan. 328
- Studies on Influenza—Noble P. Sherwood, M.D., Lawrence, Kan. 331
- Hospitalization of Narcotic Addicts, U. S. Penitentiary, Leavenworth, Kan.—C. S. Bennett, M.D. 341
- KANSAS MEDICAL LABORATORY ASSOCIATION
- Certain Public Health Problems of Oregon—William Levin, D.P.H., Portland, Ore. 345

#### TUBERCULOSIS ABSTRACTS

- Paul Ehrlich, Pioneer in Serology 347

#### EDITORIAL

- Facts, Figures and Fancies 350
- Pharmacopoeal Convention 354

- Chips 356
- Medical School Notes 358
- Personals 358
- Deaths 359
- The Pediatrician's Formula 349
- Books 359

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## CONTENTS

### ORIGINAL ARTICLES

- Physical Diagnosis—Logan Clendening, M.D., Kansas City, Mo. . . . . 361
- Low Blood Sugar in Hypothyroid Conditions—J. Watson Campbell, M.D., Halstead, Kan. . . . . 365
- The Lump in the Breast—W. P. Callahan, M.D., Wichita 368
- Primary Bronchogenic Carcinoma—Clinical Features—Sam E. Snider, M.D., Lawrence E. Wood, M.D., Kansas City, Mo. . . . . 374

### TUBERCULOSIS ABSTRACTS

- Acute Subapical Tuberculosis . . . . . 377

### EDITORIAL

- Medical Libraries . . . . . 380
- The State Narcotic Law . . . . . 380
- The Insane Criminal . . . . . 380
- Chips . . . . . 384
- Societies . . . . . 391
- Constitution, By-Laws and Resolutions of the Kansas Medical Society as Amended to Date . . . . . 386
- Books . . . . . 393
- A New Research Fellowship . . . . . 394
- The Modification of Powdered Milk Governed by the Same Rules as Cow's Milk . . . . . 395
- Announcement . . . . . 395

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## CONTENTS

### ORIGINAL ARTICLES

- Diabetes Mellitus of Infectious Origin—George H. Penwell, M.D., Marquette . . . . . 402  
Podalic Version—H. J. Stacey, M.D., Leavenworth . . . 407  
The Differential Diagnosis of Cathartic Colitis—Albert S. Welch, M.D., Kansas City, Mo. . . . . 412  
The Modern Treatment of Pulmonary Cavitation—Frank Porter Miller, M.D., Los Angeles, Calif. . . . . 409  
Public Health—Past, Present and Future—Earle G. Brown, M.D., Topeka . . . . . 416

### TUBERCULOOSIS ABSTRACTS

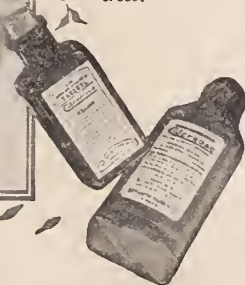
- Bacillus Calmette-Guerin . . . . . 421

### EDITORIAL

- Problems. . . . . 424  
Some Questions. . . . . 425  
Periodic Examinations . . . . . 426  
Chips. . . . . 427  
Societies. . . . . 428  
Deaths. . . . . 429  
Medical School Notes. . . . . 428  
Books. . . . . 430  
Dextri-Maltose and Modifying Lactic Acid Milk . . . . 431  
American Pharmaceutical Manufacturing Association. . . 432  
A Soliloquy—J. R. Scott, M.D., Ottawa . . . . . 432  
A Medal to Dr. R. F. Hayden . . . . . 433



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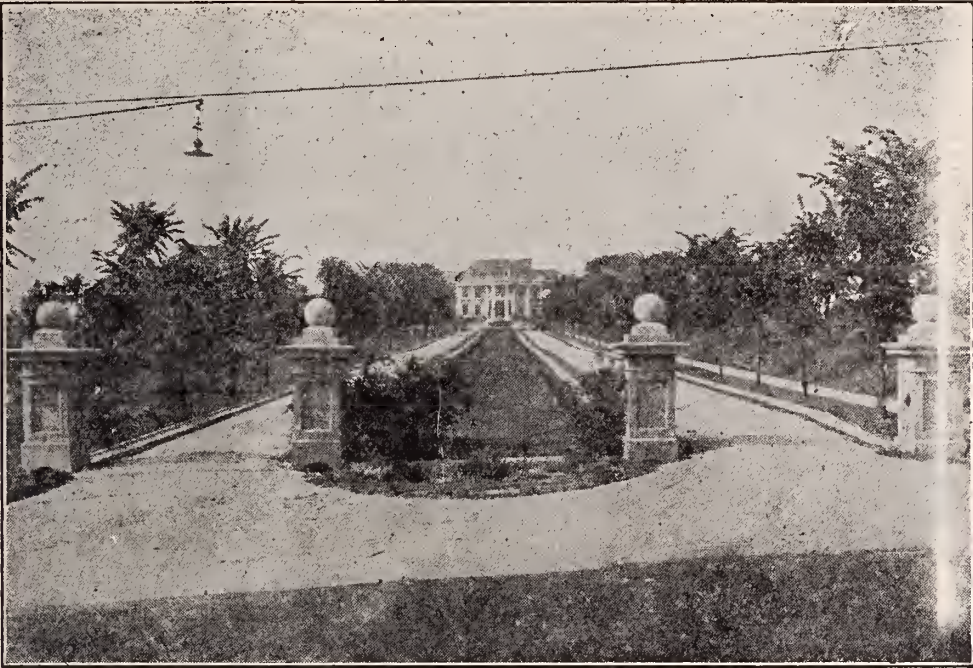
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